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TEXAS STATE JOURNAL OF MEDICINE

Vol. 48 Number 4 Austin, Texas, April, 1952

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President's Page

VALEDICTORY

In this concluding message I wish to express again to you doctors of Texas my sincere appreciation for the honor of representing you during the past year. The duties of the office entail time, effort, and expense, but there are many compensations. Being president of the Texas Medical Association is equivalent to a year's course in post-graduate medicine, as well as one in public relations. Other compensations have been the opportunity to tour our great state, seeing many of the towns and cities that I have wished to visit, and the chance to meet many of our profession. This community of spirit and mingling of minds is a privilege to be treasured as the greatest experience of my professional life. One cannot meet so many fine people without receiving a lasting impression.

Perhaps it would be profitable to recapitulate a few accomplishments of the year. The Board of Trustees and its able committees are to be congratulated upon the erection of our central office and library, opening ceremonies for which will be held this fall. At that time we will be honored by visits of guests of national and international reputations and by a program well fitting the opening of the first building in the United States erected for the specific purpose of housing the administrative offices and library of a state medical association. Credit for this accomplishment, the fruition of years of effort, does not belong to the present administration, but rather the administration is honored in having the building program culminated this year.

The work of the various councils and committees has been constant and creditable in every respect. The scientific program this year will be a tribute to hours and days of labor by the Council on Scientific Work, ably assisted by the excellent corps of personnel in the central office. The work of this Council is never done. With the 1952 program now published, work on the 1953 program already is in progress.

An innovation of the Council on Medical Education and Hospitals and its subcommittees has been postgraduate courses by telephone. Their enthusiastic reception has demonstrated the wisdom of the Council in bringing these courses to the busy practitioner in his own local society.

The Committee on Public Relations has been active in promoting the formation of local grievance committees, in establishing local physicians' telephone exchanges, and in the enlistment of better front office and reception room practices. Lately this committee has encouraged participation of high school students in essay contests on the American system of medical practice. The overwhelming response to this last effort has proved that our young people are interested in the problems of today.

Revival of interest in our district societies has been encouraging. Some districts had programs this year for the first time since the end of World War II. This is ample evidence of the continuing interest in scientific programs and organizational effort.

We owe the members of the Woman's Auxiliary hearty thanks for their cooperation and assistance in contributing to our building program, to our telephone courses, and to our essay contest. Whenever called upon, they have responded promptly and willingly. A state medical organization is as strong as its auxiliary.

In closing, I wish to thank you, the members of the Texas Medical Association, for your support. Your response when you were asked to take assignments was prompt and heartwarming. Your many kind words of proffered help and encouragement have spurred me to carry on. It has been a pleasure to represent men and women like you. For my esteemed successor, I urge the same support and aid, confident that it will be forthcoming. And now, as one Texan to another, "So long, I'll be seeing you."

TEXAS STATE JOURNAL OF MEDICINE

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Volume 48 **Austin, Texas, April, 1952** **Number 4**

WHAT DAY, OR WEEK, OR MONTH?

A favorite subject of newspaper editors whose daily publications tax their imagination for new editorial topics is the plethora of proclamations by this authority or that of a special day or week or month to fit every calendar and every taste. Perhaps those who make note of these special emphases might feel that the calendar is too full of "diabetes detection days," "tuberculosis taming times," and "polio protection periods." To the person really interested in promotion of good health, however, the multitude of special observances is a welcome indication that the everyday American is becoming more aware of the disease conditions which may affect him or his neighbor and of the need for him personally to help control them.

In April the calendar-watcher need hardly be reminded that cancer control is a major objective in Texas, where 8,133 died of cancer in 1950 and one person of every five now living will develop cancer. The calendar-watcher has become aware over a period of years that the American Cancer Society annually during this month solicits funds to support its program of research, education, and service to cancer patients. He may know that 27 cents of every dollar contributed to the Texas Cancer Crusade is spent on research, some of it being carried on in Houston, Austin, and Galveston. He may know, too, that 37 cents spreads knowledge of cancer's danger signals, the importance of regular physical check-ups, and the need for prompt medical attention if cancer is suspected. Perhaps he knows that 15 cents is spent on direct financial contributions to thirteen tumor clinics serving the state. He should know that contribution of his dollars may help to save the one-third of those who die from cancer who might live if informed and on guard against this disease.

Earlier this month the calendar-watcher might have noticed for the first time (for the observance is comparatively new) the designation of "World Health Day." April 7 this year was chosen by the World Health Organization as a day on which the nations of the world should stop to consider the value of good health

to each of the more than two billion persons who populate the globe and the nations to which they owe allegiance. With the theme "healthy surroundings make healthy people" the 1952 celebration of this special day pointed up some of the problems of poor sanitation, housing, diet, education, distribution of medical supplies, and technical skill which permit disease to flourish in many places. The World Health Organization, a special agency of the United Nations, is working in numerous areas to improve health conditions and needs especially the support of nations like our own which are the healthiest.

As soon as the calendar page turns, National Mental Health Week will become evident. May 4-10 will focus attention on a problem which is increasingly significant. As the slogan for the observance this year has it: "Mental Illness —America's Number One Health Problem; let's face it so we can fight it." Nearly half of the hospital beds in the nation are occupied by mentally ill patients, and one out of every twenty persons in the United States at some time in his life will develop a mental disorder sufficiently serious to require hospitalization. There is no need to sidestep the problem, and observance of National Mental Health Week will help place the illness in its proper perspective so that it can be fought intelligently.

Physicians and patients alike need to watch the calendar, take note of the special periods in which health problems are stressed, and do their part to make the observance worth while by contributing time, money, thought, and effort as needed and as they are able.

DALLAS BECKONS

The physicians of Texas and their wives are making preparations to call in assistants and baby sitters for the first week in May so that they can attend the annual session of the Texas Medical Association and its Woman's Auxiliary. Details of the biggest and best meeting of the year (or so the officials planning for it hope) appeared in the March issue of the JOURNAL.

Every appointment book should have in the May 4-7 space: "Going to Dallas for the state convention." And reservations for hotel accommodations should be in the top righthand drawer.

FORMULA FOR FREEDOM

Perhaps one of the most significant projects to be undertaken by a medical organization has been launched by the Michigan State Medical Society in its "Formula for Freedom." A specific, well-thought-out activity around which a complete public relations program can be built, "Formula for Freedom" is based on the hypothesis that no force or subterfuge can take freedom away if Americans understand and appreciate it and prepare themselves to exercise properly their powers and privileges. Emphasizing three elements, "know yourself," know how to live," and "know your government," the Michigan plan places responsibility on the shoulders of the individual. By helping people to become self-reliant, the program will fight the increasing dependence of the individual on his government which underlies any trend toward socialism.

Although envisioning the cooperation of other professions and businesses, each group translating the formula into its own terms, the Michigan doctors are setting out to apply the "Formula for Freedom" particularly in the area of health. They expect first to distribute a personal appraisal form which will help the person filling it out to know himself better. Space will be allowed for health, social-religious, economic, and legal appraisals, and the forms will be distributed through doctors, lawyers, bankers, churches, insurance agents, service clubs, schools, and unions to an estimated 2,000,000 people. The health appraisal will recommend a comprehensive physical examination which the doctors plan to place within the financial reach

of everyone. After taking an inventory, the doctors hope, a person will know better how to improve himself and should feel that he has a greater control over his own destiny.

The second step is to get across some of the basic socio-economic facts with the assumption that the more a person knows about such things the more competent he will be in coping with them. Newspaper stories, radio and television shows, motion pictures, and health education classes in Michigan already make available information about medicine and health with doses of socio-economic material interspersed.

Finally, the Michigan medical profession seeks to interest citizens in good government, pointing out that citizens should learn what candidates for public office stand for and should vote their convictions in every election.

True enough, the idea behind "Formula for Freedom" is not new. The medical profession has stood for free enterprise, individual effort, and self-reliance and has urged a program to "inform the public" for a long time. Nevertheless, the Michigan formula has a new twist that makes it basic and apparently workable. It will be worth watching and perhaps worth adopting in Texas.

HOSPITAL STANDARDS REVISED

In the recently revised issue of the Manual of Hospital Standardization of the American College of Surgeons, two provisions listed under the required standards are of special significance to physicians.

The busy doctor who was required in the past to attend monthly meetings of hospital staffs, as well as other specialty and county medical groups, will be aided by the new requirements as listed in the manual:

"In well organized and departmentalized hospitals, departmental conferences and clinico-pathologic conferences may be substituted for meetings of the entire staff, provided that all of the medical work of the hospital is covered by one or another of such conferences and further provided that at least one meeting of the entire Active Staff is held during each quarter of the year."

Unless the above requirements are met, monthly meetings of the staff are mandatory as in the past. Under the new provisions smaller hospitals are spared the complex regulations required of larger institutions.

Another section in the manual makes mandatory a tissue committee "to study and to report to the staff, or the Executive Committee of the staff, the agreement or disagreement between preoperative diagnoses and reports by the pathologist on tissues removed at operation. Such reports must be made of permanent record and be available at inspection for accreditation." This provision will keep hospital staffs alert and help reduce to a minimum unnecessary surgery.

The function of the tissue committee and the objective of the staff meetings are both aimed at improving the care and treatment of patients. Each physician in every service on the staff must submit himself to his colleagues for constructive criticism which will aid him in administering better care to his patients. Through the pooling of knowledge and resources and the discussion of good and bad results in past cases, the doctors can aid in making medicine grow.

These sections are parts of the revised manual which will be administered by a newly-organized body for the standardizing of hospitals. As a result of a series of meetings and proposed plans of interested groups held since September, 1950, the American College of Surgeons soon will end its thirty-five years as the sole agency in the field of accrediting and maintaining standards of the nation's general hospitals. In the future, this task will be assumed by a Joint Commission on Accreditation of Hospitals made up of representatives of the American College of Physicians, American College of Surgeons, American Hospital Association, American Medical Association, and Canadian Medical Association.

The operating expenses of the commission will be paid by the constituent organizations on a basis proportionate to their representation on the commission. Hospital surveys regarding internship and residency training will continue to be carried out by the organizations which have conducted the surveys in the past.

The transferring of the program from the American College of Surgeons to the Joint Commission is expected to take place June 30, 1952, and headquarters will be in Chicago. The commission will accept for its initial list the roster of hospitals furnished by the American College of Surgeons.

The Joint Commission of twenty persons will be the final authority in accreditation of hospitals and will carry out the standardization program previously sponsored by the American College of Surgeons. The cooperative plan between the four organizations composing the Joint Commission promises to broaden the field of activities and the distribution of the responsibility of the hospitalization standardization program.

MEDICAL EDUCATION ON THE MARCH

The greatest expansion in facilities for medical education ever undertaken is in progress in the United States, according to a survey conducted by the *New York Times*. Medical colleges expect to spend within the next few years $50,000,000 for laboratories, $30,000,000 for classrooms, $20,000,000 for dormitories, and $100,000,000 for research and special projects, and more than $50,000,000 will be used to establish new medical institutions. These expenditures are anticipated even though 30 per cent of the medical schools are finding it impossible to obtain sufficient funds for operating expenses, and 45 per cent are finding it difficult to secure sufficient qualified faculty members.

Although for the 1951-1952 academic year medical schools admitted the largest freshman classes in recent history (7,381 students) and total enrollment has grown steadily since the end of World War II (26,000 now compared with 23,000 five years ago), many qualified applicants cannot be accepted for medical training because of lack of facilities. Whether or not there is a real shortage of physicians is a moot point. Many of the medical deans questioned in the *Times* survey pointed to a maldistribution of physicians, especially in rural areas, as the chief problem in providing medical care, but 78 per cent of them expressed the belief that a shortage of doctors exists and can be alleviated only by expansion of educational facilities. The warning was issued that enrollment can be increased only by adding to the already existing physical plants and faculty unless high standards of education are sacrificed.

Uneven scholarship is resulting from an increasing tendency for state and municipally owned medical schools to exclude students who do not reside in the state (one-fourth of the schools exclude all out-of-state students and more than 50 per cent give preference to residents). The reason for such action is obvious: taxpayers and their families presumably should receive priority in the institutions they maintain. Regardless of the logic behind such restrictions, medical colleges which do not have the restrictions receive a large number of applications and can choose the best qualified students, whereas those which do must take what they can get, sometimes meaning poorly prepared and poorly qualified applicants. In this connection, the *New York Times* determined that almost half of the total number of applicants for medical schools come from seven states in the following order: New York, Pennsylvania, California, Illinois, Ohio, New Jersey, and Texas.

With seventy-three four-year medical schools and seven two-year colleges now in operation in the United States, at least ten states have taken steps to establish new medical schools or expand their two-year basic science schools into

four-year institutions. Nearly half of the present colleges are engaged in fund-raising campaigns, of which 84 per cent report that the proceeds will be used to expand physical facilities.

The *New York Times* survey, reported in its March 2 issue, illuminates the tremendous need for funds faced by medical educators. The report is released at an appropriate time, for with April 1, leaders of the American Medical Education Foundation opened the 1952 drive for funds to support the nation's medical schools. Aiming at $2,000,000 as a minimum for the year, the foundation is asking each state to carry on a campaign in its own way, using April, May, and June as a period for intensive canvassing of individual physicians and the remainder of the year for completion of the campaign and obtaining special gifts.

As has been pointed out before, the American Medical Education Foundation is a nonprofit agency through which members of the medical profession and others interested in maintaining a steady flow of well trained young physicians can contribute much needed support. If physicians think they should help finance the present expansion of medical institutions, the foundation affords a channel for more than token action.

ORIGINAL ARTICLES

CARCINOMA OF THE THYROID GLAND
Pathologic Survey of 47 Cases

CHARLES T. ASHWORTH, M.D., Fort Worth, Texas

TUMORS of the thyroid gland constitute a controversial subject because of the difficulty in interpretation of the proliferative lesions in this organ and the ill-defined borderlines existing between hyperplasia, benign neoplasia, and malignant tumors. The long duration of these neoplasms before they manifest themselves as definitely malignant and the relatively high curability by excision lead to confusion regarding the actual malignant nature of thyroid tumors and to the impression that there is some lack of correlation between histologic findings and clinical behavior in thyroid carcinoma.

The present study is a survey of the cases that have been seen in our laboratories* during the past two and one-half years. During this period 612 thyroid glands or portions of thyroids were submitted for histologic study. The incidence of the various histologic diagnoses in these cases is shown in table 1. Forty-seven cases of thyroid carcinoma in this series constitute the basis for study.

INCIDENCE AND TYPES

In the material under study the rather high incidence of 7.6 per cent carcinoma in all thyroid specimens was obtained. This may be compared with the figure of 3.9 per cent in Crile's[1] cases and 3.2 per cent in a group of 4,707 thyroidectomies referred to by Stout.[2] It is believed that an important determining factor in the incidence of carcinoma in surgical pathologic material is the attitude of surgeons toward removal of nontoxic nodules. If there is a strong tendency to urge removal of all such nodules, then of course, the incidence of carcinoma will be low; if the trend is to recommend removal of only nodules which present some suspicious features, the percentage of carcinoma will tend to be higher. Another factor which might affect the significance of the findings in the present series of cases is that there can be no assurance that all thyroid specimens which might have appeared grossly to have been noncancerous were submitted for histologic study.

The incidence of carcinoma in different forms of goiter is shown in table 2 in which our material is compared with that of Crile. It is observed that in multinodular goiters we experienced more than twice the incidence of thyroid carcinoma, namely, 7.7 per cent as compared with 3.4 per cent, but in solitary nodules the incidence of carcinoma in our group was 17.7 per cent as compared with 24.5 per cent in the Crile series. Others have found an incidence of car-

Read before the Section on Clinical Pathology, Texas Medical Association, Annual Session, Galveston, May 1, 1951.

**From Terrell's Laboratories, Fort Worth.*

cinoma in solitary nodules ranging from 2.56 to 40 per cent.

Perhaps a better indication of the incidence of carcinoma can be found in a general survey of the relative incidence of carcinomas in the various sites of the body. This comparison may be made in table 3, prepared from our material of the past two and one-half years with particular reference to those tumors which have a high operability rate.

TABLE 1.—*Incidence of Lesions in 612 Thyroid Specimens.*

Type of Lesion	No.
Diffuse Goiter with Hyperplasia	198
Diffuse Goiter with Involution	54
Nodular Goiter (multiple nodules) with and without hyperthyroidism	96
Colloid adenoma	106
Colloid and fetal adenoma	35
Pure fetal adenoma	36
Thyroiditis	
Unspecified type	21
Hashimoto struma	14
Riedel struma	5
Carcinoma	47
Total	612

Since the principal benign lesions of the thyroid gland that may be confused clinically and pathologically with carcinoma are adenomas, considerable interest is centered around these tumors. In our group of cases there were 181 such tumors as single nodules removed from the thyroid gland. Of these, 106 were classified as colloid adenoma, 35 as colloid and fetal, and 35 as fetal adenoma. The adenomas of multinodular goiters are not included and no attempt was made to differentiate between multiple adenomas of neoplastic type and typical nodular goiter.[5] In the adenomas we were particularly interested in the presence or absence of capsule and venous invasion, and in cellular and nuclear morphology as compared with the group of carcinomas. The absence of invasion around the border of the tumor correlated closely with an absence of actual anaplasia in the tumor and of other atypical forms of growth which are considered characteristic of malignant neoplasms.

TABLE 2.—*Frequency of Thyroid Carcinoma in Different Types of Goiter*

Type of Goiter	Incidence of Carcinoma: Present Series %	Crile's Series %
All types	7.9	3.9
Diffuse goiter with hyperplasia	0.5 (1 case)	
Multinodular goiter with and without hyperthyroidism	7.7	3.4
Solitary nodules	17.7	24.5

In table 4 are listed the different histologic varieties of carcinoma encountered in this group of cases and the incidence of these types. Since the histologic grade of malignancy is important in the behavior of these tumors, this information is incorporated in the classification. Tumors which exhibited a practically pure papillary or follicular structure exhibited a tendency to be of low grade malignancy, whereas those having an admixture of papillary and follicular areas were frequently of higher degrees of malignancy.

TABLE 3.—*Incidence of Cancer in Different Sites During Two and One-Half Years*

Site	No. Cancers
Skin	1,874
Squamous cell	782
Basal cell	1,092
Cervix	471
Breast	345
Large intestine (including rectum)	216
Uterus (fundus)	122
Prostate	112
Ovary	107
Urinary bladder	93
THYROID	47
Larynx	43
Stomach*	30
Kidney	30
Total	3,490

*Figure does not include biopsies of omentum, peritoneum, and lymph nodes in inoperable cases.

HISTOLOGIC CRITERIA

Papillary Structure.—Experience apparently has shown conclusively that thyroid tumors which have a real papillary structure must be considered carcinoma. Warren[5] allowed for a papillary cystadenoma, apparently implying a benign tumor, but Stout[2] classified all papillary tumors of the thyroid as carcinoma. In our cases, 27 showed definite papillary structure in part or altogether. Many of these exhibited other evidences of malignancy such as lymph node metastases and local invasiveness. Most papillary carcinomas seem to have a low grade of malignancy, cytologically and clinically, but some are more anaplastic. These latter usually reveal alveolar areas as well.

The morphologic identity of papillary tumors metastatic in regional lymph nodes of the neck, with the papillary tumors in the thyroid gland itself appearing extremely innocent upon cytologic examination, indicates the uncertainty of classifying any papillary tumor in the thyroid gland as benign. The high incidence of capsule invasion in papillary tumors likewise favors their malignant character.

The question of primary aberrant papillary thyroid tissue in the neck versus metastatic papillary carcinoma in cervical lymph nodes has been reviewed thoroughly,[6] and the prevalent opinion at present is that virtually all papillary thyroid growths encoun-

TABLE 4.—*Incidence of Different Types of Thyroid Carcinoma and Degrees of Malignancy*

Type of Carcinoma	Degree of Malignancy: Low	Intermediate	High
Papillary	13	2	0
Follicular	11	2	0
Papillary and follicular	5	7	0
Hürthle cell	4	1	0
Diffuse (spindle cell, giant cell, small round cell)	0	0	2

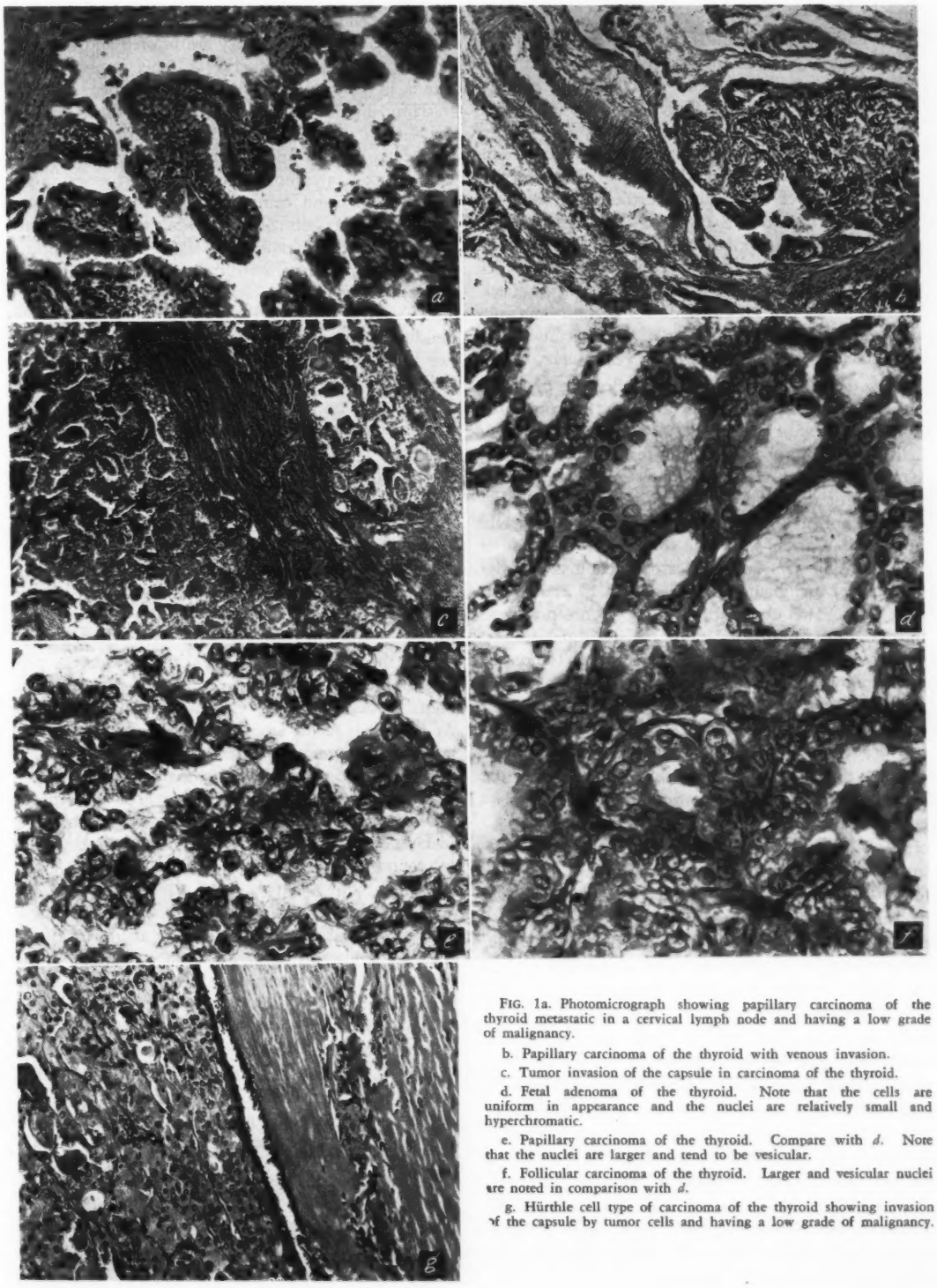

FIG. 1a. Photomicrograph showing papillary carcinoma of the thyroid metastatic in a cervical lymph node and having a low grade of malignancy.

b. Papillary carcinoma of the thyroid with venous invasion.

c. Tumor invasion of the capsule in carcinoma of the thyroid.

d. Fetal adenoma of the thyroid. Note that the cells are uniform in appearance and the nuclei are relatively small and hyperchromatic.

e. Papillary carcinoma of the thyroid. Compare with *d*. Note that the nuclei are larger and tend to be vesicular.

f. Follicular carcinoma of the thyroid. Larger and vesicular nuclei are noted in comparison with *d*.

g. Hürthle cell type of carcinoma of the thyroid showing invasion of the capsule by tumor cells and having a low grade of malignancy.

tered laterally in the neck region represent metastatic thyroid carcinoma. In the present group of 15 practically pure papillary tumors of the thyroid gland, 7 cases were apparent first clinically in the lateral cervical region and were confirmed by biopsy. By subsequent study of the removed thyroid lobe or by clinical palpation, a primary tumor was found in the thyroid gland of 5 of these; further data were not available in the other 2 cases. In 27 cases of thyroid tumor having a papillary or papillary and alveolar structure, pathologic study revealed 11 cases in which lymph node metastases were present in the neck. Since few cases of lymph node dissections were submitted for pathologic study, it may be surmised that the incidence of metastases was even higher.

Invasion of Capsule and Vein.—Because of minor changes in the cells in lower grades of thyroid carcinoma, invasion of capsule and of vessels by the tumor cells has been emphasized as a criterion of malignancy. Graham[7] perhaps was the first to emphasize the importance of this finding and stressed that in malignant adenoma, venous invasion almost always could be found. Warren[8] was able to find 3.5 per cent of vein invasion in a large series of adenomas. Further evidence of malignancy was present in 10 per cent of this group. This observation has been interpreted to minimize the importance of venous invasion, and yet, in view of the probable high curability of tumors of this sort by hemithyroidectomy, it is feasible to consider that these adenomas with blood vessel invasion are actually low grade carcinoma which have a high rate of curability by surgical removal.

Frank histologic invasion of the capsule by the cells of the follicular type of thyroid tumor, and particularly by papillary tumor tissue, generally has been accepted as evidence of a degree of malignant behavior. In our cases a high incidence of capsule invasion was found in random sections. Either capsule or venous invasion was found in practically all cases in which the primary tumor was available in adequately representative form to allow blocks to be obtained around the border. Some cases were represented only by biopsy or by regional lymph node removal, but in 33 cases in which the capsule could be studied, 27 showed invasion of the capsule and 14 revealed venous invasion. Most of the cases of venous and capsule invasion occurred concurrently, but a few had invasion of only capsule or vein. We were less successful in identifying invasion of veins than Graham, Warren, and others. In many cases the tumor cells seemed to lie in little spaces in the capsule, but often we were unable to satisfy ourselves that these were actually intraluminal growths rather than protrusions through the walls or perivascular growths.

Cytologic Changes.—It is generally believed that atypical cellular changes in thyroid carcinoma of the lower grades of malignancy are limited and that they hardly serve as useful criteria. This impression extends, in the extreme, to the concept of benign metastasizing thyroid tissue. In the study of these cases we have been impressed that a fairly constant alteration in cell structure is apparent in the low grade papillary and alveolar carcinomas. On reviewing the sections of these tumors and comparing them with a series of fetal adenomas and colloid adenomas, it has appeared that the carcinomas are characterized by a definite nuclear enlargement with little increase of chromatin content. The nuclear chromatin is finely dispersed and is more densely arranged around the periphery tending to produce a vesicular appearance. However, we have found disturbances of polarity of the cells, mitotic activity, and changes in secretory activity to be of little or no usefulness in differentiating the cellular fetal adenomas from low grade follicular carcinoma.

Hürthle Cell Features.—Our experience with Hürthle cell tumors has been too limited to formulate any definite opinions about their potentialities. Generally, they are considered as tumors of low grade or potential malignancy except for a few which manifest themselves as moderately advanced malignant tumors. However, Lahey[4] classified the Hürthle cell tumors in the group of high degree of malignancy. In our small group, they showed less tendency to invade the capsule and veins than other varieties of thyroid carcinoma. Occasionally, they exhibit a papillary structure. At present it seems advisable to utilize the same criteria for malignancy in these tumors as in the other types of thyroid neoplasms, namely, papillary structure, venous invasion, and extension into the capsule, and to recognize a group of Hürthle cell tumors as adenomas in which these features of malignancy are not found.

CARCINOMA-IN-SITU

The designation of "potentially malignant"[5] applied to some cases of thyroid tumors introduces the possibility of the concept of noninvasive carcinoma or carcinoma-in-situ, developing in an adenoma. We are not certain whether or not it is possible to determine a noninvasive stage of thyroid carcinoma.

The problem is difficult because cytologically the signs of malignant change are indistinct and because the complete examination of the capsule for invasion may be a fortuitous undertaking. If capsule or vein invasion is present and demonstrable, the lesion is an invasive carcinoma. However, if papillary structure or cytologic changes indicating anaplasia are demonstrable in an encapsulated tumor of the thyroid, the possibility that the tumor is a noninvasive carcinoma exists. This point is important because often

in these cases the nodule has been removed by adenomectomy under the impression that it was a benign adenoma. If the tumor is found to be malignant with invasion of the capsule or veins, the indication for later removal of the thyroid lobe is clear. However, if the tumor could be designated as noninvasive carcinoma, it might be feasible to presume that simple adenomectomy was adequate surgical treatment.

On considering this question we have arrived at the provisional opinion that it is not safe to designate a thyroid carcinoma as noninvasive, believing that absence of capsule and venous invasion cannot be established with sufficient certainty to justify limitation of the method of surgical treatment.

SUMMARY

In a study of 612 thyroid glands or portions of glands we have an incidence of 17.7 per cent carcinomas in single thyroid tumors and 7.7 per cent in multinodular goiter. This incidence strongly indicates that any nodule in the thyroid gland should be considered with suspicion and its surgical removal recommended.

The histologic criteria we have found most useful in the diagnosis of thyroid carcinoma include papillary structure, capsule invasion, venous invasion, and cytologic changes. These findings are discussed and illustrated.

It is our opinion that carcinoma-in-situ of the thyroid gland exists, developing in adenoma. Nevertheless, we are inclined to believe that diagnosis of such tumors by pathologic means cannot be sustained sufficiently to justify recommending a limitation of surgical treatment.

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MALIGNANT TUMORS OF THE OVARY

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THE ovary is a striking exception to the old dictum that organs which are frequently the seat of primary cancer are rarely involved in secondary malignancy and vice versa. Both primary and secondary carcinomas of the ovary are relatively frequent. Carcinoma of the ovary may be either a solid or a cystic tumor, the latter being the more common, in a proportion of 2.0 to 1.4 based on a series reported by Meyer.[9]

Ovarian tumors show great structural variety; the histogenesis of some of them is clear, whereas of others it is still obscure.

A classification of ovarian tumors is essential for understanding the clinical evolution, pathology, treatment, and prognosis table 1.[1] Malignant tumors are classified in table 2.[9]

CARCINOMA

Primary Solid Carcinoma

The classification of solid primary ovarian cancer is notoriously unsatisfactory, chiefly because of ignorance of the histogenesis of many forms. Most systems of classification are based on general pathologic considerations such as the pattern of growth and the relative proportion of epithelial and connective tissue elements. An exception to this is the case of certain "special" types (granulosa cell carcinoma, arrhenoblastoma, and dysgerminoma).

Adenocarcinoma is the most common form of primary solid ovarian cancer. Its microscopic picture presents wide variations and it may occur in either a papillary or a nonpapillary form, the latter being the more common. The glands may be distributed discretely, or they may occur in clusters separated by relatively dense connective tissue.

Medullary carcinomas are characterized by an overwhelming preponderance of epithelium over connective tissue.

Carcinoma simplex is characterized by a fairly even balance between the epithelial and stromal elements with no noticeable preponderance of one over the other.

In scirrhous carcinoma the connective tissue is present in far larger amounts than the epithelial elements. In this type of carcinoma, the epithelial cells

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are often small and round, so that they are spoken of by some authors as round-cell carcinomas.

In alveolar carcinomas the epithelial cells are arranged in alveolar groups separated by areas of connective tissue.

Plexiform carcinomas are characterized by neoplastic epithelium arranged in narrow columns or cords which often anastomose, and they must be differentiated from granulosa cell carcinoma and arrhenoblastoma in which the cordlike arrangement of cells is also seen.

Saphir and Lackner[15] have called attention to a variety of ovarian adenocarcinoma which possesses seems to be considerable skepticism regarding Schiller's concept of the histogenesis of these growths. The chief microscopic characteristic of these tumors is a tubular pattern and the presence of tuftlike projections which Schiller interpreted as representing imperfect glomerular formation. Willis[20] has expressed the opinion that the structures described by Schiller represent artefacts and can be seen in almost any highly anaplastic adenocarcinoma.

Among the embryonic or dysontogenetic types of primary tumors of the ovary are granulosa cell carcinoma, thecoma, luteoma, arrhenoblastoma, and dysgerminoma.

With reference to the origin of granulosa cell tumors, the prevailing concept, championed by Meyer,

TABLE 1.—*Types of Ovarian Tumors.*
(After Ackerman, L. V., and del Regato, J. A.: Cancer; Diagnosis, Treatment, and Prognosis, St. Louis, C. V. Mosby Company, 1947.)

Type of Tumor		Origin	% of All Benign Tumors	% of All Malignant Tumors	% Bilateral
Serous cystadenoma	(50%)	Germinal epithelium	35		50
Serous cystadenocarcinoma	(50%)			70	
Pseudomucinous cystadenoma	(95%)	Germinal epithelium	40		5
Pseudomucinous cystadenocarcinoma	(5%)			13	
Cystic teratoma	(97%)	Misplaced blastomeres	15		12
Struma ovarii				1	
Carcinoma (usually squamous)	(3%)				
Brenner tumor (invariably benign)		Sexually indifferent cell inclusions (Walthard)	1	0	5
Fibroma (invariably benign)		Ovarian stroma	5	0	10
Thecoma (invariably benign)		Mesenchyme	3	0	0
Dysgerminoma (often malignant)		Undifferentiated embryonic cells of genital ridge		1	25
Granulosa-cell tumor		Mesenchyme	?	10	5
Benign	(60%)				
Malignant	(40%)				
Arrhenoblastoma		Embryonic remnants male-directed cells in the region of rete ovarii	<1	<1	0
Benign	(80%)				
Malignant	(20%)				
Carcinoma, unclassified		Undetermined		5-15	50
Sarcomas		Mesenchyme			25
Krukenberg tumor		Metastases from stomach, bowel, gallbladder, etc.			near 100

rather distinctive histologic characteristics and which they believe arises from mesonephric structures which may be present in the ovary. The structure is not unlike that of ordinary adenocarcinoma, except that the lining epithelium is made up of large, clear cells which are cuboidal or columnar in type. The lumina of the glands are often filled with these cells to produce a striking resemblance to adrenal tissue or to the large, clear cell adenocarcinoma of the kidney. Grossly, these tumors are yellowish in color and have a strong tendency to degeneration and hemorrhage.

In 1939, Schiller[16] applied the term mesonephroma to a group of tumors which he thought had their origin in mesonephric structures. Several other authors[3, 19] have reported similar tumors; however, there is that they arise from nests of redundant granulosa cells left over in the process of follicle formation. Novak, however, has expressed the belief that the histogenesis of these tumors may be traced to an earlier, progranulosal and prothecal stage of development, and that it is from the ovarian mesenchyme that both granulosal and thecal cell tumors develop.

He has suggested that both of the tumors be included under the designation "feminizing mesenchymoma of the ovary."

Granulosa cell carcinoma of the ovary may be considered a fairly common tumor, comprising probably about 10 per cent of all solid malignant ovarian neoplasms. The tumor may occur at any age. When it occurs during reproductive life, as it does in a

large proportion of cases, the clinical syndrome is not so striking as in the prepubertal or postmenopausal ages when there is normally little or no estrogenic hormone in the circulation. During the reproductive years, no constant change can be expected in the secondary sex characteristics; however, when such tumors occur in young children, the clinical manifestations are precocious puberty and the premature appearance of secondary sex characteristics. With the removal of the tumor, these manifestations promptly regress. In the postmenopausal group of cases, the tumors produce a reestablishment of periodic menstruation-like bleeding and hypertrophy of the uterus; however, no change is usually seen in the secondary sex characteristics.

Malignancy of this group of tumors is much less than that of ovarian cancer in general, and some

TABLE 2.—*Malignant Tumors of the Ovary.*
(After Novak, E.: Gynecological and Obstetrical Pathology, ed. 2, Philadelphia, W. B. Saunders Co., 1947, pp. 312-313.)

- Carcinoma
  - Primary solid carcinoma
    - Adenocarcinoma
      - Nonpapillary
      - Papillary
    - Medullary carcinoma
    - Carcinoma simplex
    - Scirrhous carcinoma
    - Alveolar carcinoma
    - Plexiform carcinoma
    - Mesonephroma (not clearly established)
    - Embryonic or dysontogenetic
      - Granulosa cell carcinoma (often cystic)
      - Thecoma
      - Luteoma
      - Arrhenoblastoma
      - Dysgerminoma (seminoma)
    - Chorionepithelioma
  - Cystic carcinoma
    - Pseudomucinous cystadenocarcinoma
    - Serous papillary cystadenocarcinoma
    - Epidermoid carcinoma arising in dermoid cyst
  - Metastatic carcinoma
    - Adenocarcinoma
    - Krukenberg tumor
    - Epidermoid carcinoma
    - Chorionepithelioma
    - Hypernephroma
- Melanoma
- Teratoma (including struma ovarii)
- Sarcoma (round cell, spindle cell, mixed cell)

pathologists prefer to speak of the tumor as a granulosa cell tumor rather than granulosa cell carcinoma. This concept, however, is probably erroneous as Novak and Brawner[11] reported one group of 32 cases in which clinical malignancy was evident in 9.

There are wide variations in size of the granulosa cell tumors, but as a rule they are moderate in size, ovoid in shape, with indefinite lobulations on the surface. The cut surface frequently is bright yellow. The microscopic pattern is extremely variable, a fact which probably accounts largely for the confusion of classification of many of the ovarian tumors not considered to fall in this group. At times, large masses of granulosa cells may be seen surrounded by a theca-like capsule of stroma. Often small areas of cystic degeneration resembling Call-Exner bodies are present. Not infrequently there may be a large cystic cavity surrounded by many layers of granulosa cells so that there is a decided resemblance to a large graafian follicle. There may be solid, diffuse fields of granulosa cells with little or no folliculoid pattern, sometimes spoken of as the diffuse or parenchymatous type. A common pattern is produced by connective tissue invasion by the granulosa cell masses producing the tumor type which has been designated as cylindroma, characterized by a splitting up of the epithelial masses into cylinders and columns of various size. In extreme grades of this connective tissue invasion and degeneration, the growth may give a definite pseudo-adenomatous appearance, whereas in other cases differentiation from round cell sarcoma is difficult.

In a considerable number of cases, a fibroma-like character may be given to the histologic picture by the presence of large numbers of connective tissue elements. It is to this fibroma-like group that the term thecoma[5, 18] has been applied. These tumors are usually unilateral, are invariably benign, and are commonly firm and fibrous. Microscopically they are characterized by the presence of bundles of broad spindle cells which are epithelioid in appearance and are distributed in broad, irregular, interlacing bands. Many of the cells contain large, refractile fat droplets. In these tumors may often be found areas of well differentiated granulosa cells so that too sharp a division between the granulosal and thecal tumors is probably not wise, especially in view of their identical endocrine effects.

An interesting histologic characteristic of this type of tumor is that the constituent granulosal or thecal cells at times may undergo transformation into what are evidently typical lutein cells. This change may progress to a point at which the entire tumor may be thus transformed. Novak has expressed the opinion that the most common type of the so-called luteoma of the ovary represents merely a luteinized granulosa cell tumor.

In contrast to the feminizing group of tumors, the masculinizing tumors, represented chiefly by the arrhenoblastoma, are rare. Novak[9] has reported 82 cases in a review of the literature. The term arrhenoblastoma was coined by Meyer for the group of masculinizing ovarian tumors which probably originate in certain male-directed cells persisting in the ovary from the early stages of gonadogenesis. Norris has restricted the use of the term to those cases showing masculinizing signs and symptoms; however, Novak has stated that the classification should be made entirely on the histologic appearance rather than the clinical manifestations of the tumor.

Grossly, arrhenoblastomas are generally small or

moderate in size, but a few cases have been reported in which the tumors were as large as 10 to 12 inches in diameter. The surface is usually smooth, pale gray or yellowish in color, and firm although areas of cystic degeneration are common.

The microscopic appearance of arrhenoblastomas may be varied, and no specific picture can be described.[14, 21] In the highly differentiated or testicular adenoma type the seminiferous tubules may be perfect and even rete structures may be present. In the intermediate group, tubule formation is imperfect and one may see only irregular columns of cells containing characteristic nuclei which lie transversely to the long axis of the column; Leydig cells may or may not be present. In the undifferentiated variety, the microscopic picture is frequently indistinguishable from that of spindle or round cell sarcoma, although examination of multiple blocks of tissue frequently will reveal the presence of imperfect tubule formation or of lipoid-containing interstitial cells which will aid in the diagnosis.

Arrhenoblastoma is characteristically a tumor of young women. The clinical course is typified first by signs of defeminization and later by definite masculinization. The usual sequence of events is abrupt cessation of menstruation and flattening of the breasts, followed later by deepening of the voice, hirsutism, and hypertrophy of the clitoris. Following removal of the tumor, menstruation usually is reestablished within one month; however, disappearance of the masculinization signs is usually much slower and may be incomplete.

The degree of malignancy of this group of tumors is difficult to evaluate as the number of reported cases is so small and most of them have been reported shortly after the diagnosis was made with little or no follow-up reports. Although it is probable that malignancy is of a relatively low degree, several cases having a fatal termination have been reported.

Adrenal tumors of the ovary and luteomas[7] are rare and may be either benign or malignant. It is doubtful that the mature lutein cell can be the source of neoplastic growth, and it has been stated by Meyer and Novak that nearly all of the reported cases of masculinizing luteomas are probably of adrenal rather than lutein character. For this doubtful group of tumors, Rottino has suggested the name, masculinivoblastoma. The clinical importance of this type of tumor lies in the fact that it produces a syndrome of defeminization and masculinization identical with that of arrhenoblastoma, and as is the case in the latter, the symptoms retrogress after removal of the tumor. Malignant tumors may arise from this group and are designated by some as hypernephromas of the ovary.

Dysgerminomas of the ovary comprise about 3 per cent of all primary malignant ovarian tumors.[4, 17] They are tumors of early life, but they may be found in adult women. It has been suggested that these tumors arise from cells in the undifferentiated stage of gonadal development before either male or female potentialities are established. It is found most frequently in persons having subnormal gonadal development and in pseudohermaphrodites. Nevertheless, it is well known that the tumor has nothing to do with the development of that sexual anomaly, which will persist even after removal of the tumor.

Dysgerminomas show a wide variation in size, some being quite small whereas others almost completely fill the abdominal cavity. They are usually surrounded by a dense, gray capsule and may be smooth or slightly nodular. Microscopically, they are probably more distinctive than any of the other ovarian neoplasms. They are composed of cells which are arranged in solid alveoli or nests, separated by septums of fibrous tissue which usually shows extensive hyaline degeneration and lymphocytic infiltration. Toward the periphery of the tumor, the cells frequently are arranged in long columns or strands. The individual cells are large, rounded, ovoid, or polygonal; cytoplasm is abundant, pale, and often translucent; nuclei are large and heavily stained; mitotic figures usually are present but are not numerous.

As a general rule, dysgerminomas are less malignant than granulosa cell cancers but are more malignant than arrhenoblastomas. Although the number of reported cases is relatively small, the mortality rate is considered to be about 18 per cent.

An ovarian tumor which should be mentioned in passing is the gyandroblastoma, a rare tumor containing both arrhenoblastomatous and granulosa cell tumor tissue in a woman showing evidences of masculinization. Clinical evidence of over-production of female hormone may be absent or slight, or may be manifested by hyperplasia of the endometrium.

Cystic Carcinoma

Primary cystic carcinomas of the ovary are almost twice as common as the solid tumors. Cystic carcinoma of the ovary can be divided primarily into two types, pseudomucinous and serous. To some extent these two types of tumors are similar, and it is important to know the distinguishing gross characteristics of each.

The estimated frequency of malignant degeneration in pseudomucinous cystadenomas is only about 5 per cent. The cystic tumors are nearly always multilocular and are much like the benign pseudomucinous cysts from which they arise, except that firm gelatinous nodular masses are found within the cysts. Microscopically, there may be a wide variation in appearance in sections taken from different portions of the gross specimen. In some areas the cysts are found to

be lined by tall, columnar, mucus-filled cells with basal nuclei, identical to those seen in benign pseudomucinous cysts; however, in other areas the tumor consists of masses of mucus with isolated nests and cords of pleomorphic cells, some of which may present a signet-ring appearance.

There are many variants of the serous cystadenocarcinoma, and individual tumors may behave in an unpredictable manner. They may be papillary or nonpapillary, the former being much more common. Pfannestiel[9] has stated that one-half of the serous papillary tumors of the ovary are malignant. Statistics on the subject are of little value because pathologists differ widely in their interpretation of many tumors belonging to the papillary group. Moreover, there are certain tumors of this group which appear benign on histologic examination but which have the capacity of implanting themselves on the peritoneum so that they run an essentially malignant clinical course.

In some cases, the papillary nature of the tumor is evident on external examination—a papillary outgrowth may be present on the surface (cystadenoma evertens)—while cross section of the tumor reveals moderate or extensive wartlike papillary growths at various points on the inner wall of the cyst. The character of the epithelium covering the papillary folds may show considerable variation. Most frequently it consists of many layers of cells which show no suggestion of gland pattern, although there may be small areas of cystic degeneration. In other cases, the cells show a definite tendency to the formation of small glandular structures, and the picture is similar to that of the solid papillary adenocarcinoma. Psammoma bodies are not infrequent and the stroma may show varying degrees of degeneration and necrosis.

Dermoid cysts are much less frequent than cystadenomas, and the incidence of malignancy is low. In a collective review by Meyer,[9] only 1.7 per cent of more than 1,000 dermoid cysts showed cancerous change. Cancer arising from dermoid cysts usually takes the form of epidermoid carcinoma and is most frequently of a highly differentiated variety.

Metastatic Carcinoma

There are two main varieties of carcinoma which have a tendency to metastasize to the ovary.[2, 6, 8] One of these includes the various forms of pelvic carcinoma; the other group is composed of carcinomas of the gastrointestinal tract, especially of the stomach, but less frequently of the large and small intestine, gallbladder, liver, or pancreas. Occasionally a physician may find ovarian metastasis from carcinoma of the breast, and leukemic infiltration of the ovaries has been reported.

Ovarian metastasis from gastrointestinal malignancies is much more common than from other sources. Most characteristically this lesion assumes the form of the so-called Krukenberg tumor although the ovarian growth sometimes appears as a solid adenocarcinoma, as well as metastatic hypernephroma, chorionepithelioma, and melanoma.

Krukenberg tumors are firm, solid growths, usually of moderate size, almost always bilateral, and as a rule retaining the general shape of the ovary. The cut surface generally is gray and frequently presents areas of cystic degeneration.

Microscopically, the stroma may be dense and cellular in some areas and edematous or myxomatous in others. The epithelial elements may occur as clusters of well marked acini and show various degrees of mucoid degeneration. The cells frequently rupture so that mucus may be demonstrated not only within the cells but also in the surrounding stroma. Signet-ring cells are usually numerous, and it is because of these that the term carcinoma mucocellulare has been suggested. The type of primary carcinoma apparently plays little part in the production of Krukenberg tumors as not infrequently nonmucus producing primary carcinomas may give rise to metastatic mucoid adenocarcinomas in the ovary.

TERATOMA

Solid teratomas are far less common than dermoid cysts. They may occur at any age but are more common in younger persons. The tumor is usually of small or moderate size but occasionally grows large. It is firm and solid but may show areas of cystic degeneration. The capsule is frequently penetrated, with infiltration of surrounding tissues and occasionally implantation on the peritoneum. The cut surface presents a variegated appearance, and portions of almost any tissue or organ in the body may be reproduced, although usually in imperfect or rudimentary form.

There has been much discussion as to the histogenesis of teratoma of the ovary and a wide variety of opinions still exists on this point. According to the blastomere theory of Marchand-Bonnet, the tumors arise from blastomeres which are segregated at an early phase of embryonic development. The sex cell theory, supported by Ewing, is based on the assumption that the unfertilized ovum may show spontaneous growth and imperfect differentiation.

Although many different elements may be present in the structure of a teratoma, it occasionally happens that one type of tissue may show accelerated growth and crowd out all of the other elements. In this way, thyroid tissue, which is a frequent constituent of teratoma, may overgrow all other elements and produce tumors composed almost entirely of thyroid tissue, struma ovarii (thyroid tumor of ovary). It has been shown by Plaut[13] using iodine determinations as well as biologic tests with the tumor tissue, that genuine thyroid tissue is concerned. Whereas such

tumors have seemed relatively benign in most cases, several have been reported to run a definitely malignant course, with metastasis and death.

Chorionepitheliomatous changes are occasionally noted in teratomas of the ovary[12] and presumably arise from trophoblastic tissue which may form a part of the teratoma. This diagnosis, however, must be made with caution as degenerative changes in epithelial areas of a teratoma may cause a superficial resemblance to chorionepithelioma. It is believed by many that unless the pattern is very definite and is supported by the presence of gonadotropic hormone, the diagnosis of chorionepithelioma should be made with hesitation.

SARCOMA

Sarcomas make up only a small group of ovarian tumors. They are bilateral in about 30 per cent of cases, and the greater proportion of them are fibrosarcomas, which probably arise from fibromas and possibly a few from teratomas. The round cell variety is much less common, and it is this type which is most frequently confused with other malignant tumors of the ovary. A few angiosarcomas, myxosarcomas, and chondrosarcomas have been reported and probably arise from solid teratomas.

SUMMARY

Malignant neoplasms of the ovary are reviewed in an attempt to simplify the classification, which is notoriously unsatisfactory. Because of the wide diversity of opinions as to the histogenesis of most of these tumors, no attempt is made to correlate histogeny with clinical findings. Review of the literature and study of the gross and microscopic characteristics of the various tumors has cast no additional light on their histogenesis.

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CONFLICT CONFRONTS WOMEN WITH BREAST CANCER

The highest incidence of breast cancer is between the ages of 40 and 50 years, with approximately 75 per cent occurring after the age of 40. About 17,000 women in the United States die each year of breast cancer.

Writing in the March 8 issue of *The Journal of the American Medical Association*, Drs. Richard Renneker and Max Cutler of Chicago point out that women with breast cancer must approach their problem objectively, realizing that surgery will aid in prolonging life. The physicians state that a woman with breast cancer is confronted by a dual psychological conflict; adjustment to breast mutilation and adjustment to invasion by a potentially deadly disease.

The physician's duty in relation to such a patient is to make her realize that an operation is not to be considered disfiguring or shameful. Becoming acquainted with her condition, operation, convalescence, treatment, and recovery prospects makes the patient better able to receive clinical data about her case, dispelling fantasies and misinformation, the writers point out.

PLAN TO LOWER INFANT MORTALITY RATE

A twenty-two point program designed to reduce the death rate of newborn infants by preventing premature births and deaths following premature births is outlined in an article appearing in the March 15 issue of *The Journal of the American Medical Association*.

The five persons who prepared the report, which is based on results of a fourteen-year study of infant deaths in Chicago, state that the prevention of deaths of infants can be accomplished by the following: formulating and enforcing regulations for control of hospital procedures, facilities, and personnel; disseminating accurate information concerning new methods of prevention of death of infants; employing proved health education methods; and stressing the importance of proper diet and home conditions to expectant mothers.

Physician Nobel Prize Winners

More doctors from the United States (eleven) have been awarded the Nobel Prize in Medicine than those from any other country.—Medical Society of the State of Pennsylvania.

MALIGNANT TUMORS OF THE CORPUS UTERI
With Review of 48 Cases

WILLIAM O. RUSSELL, M.D.; W. LEONARD GREENE, M.D.; and JOHN A. WALL, M.D., Houston, Texas

MALIGNANT tumors of the uterus generally are classified into two categories: those primary in the uterine cervix and those primary in the corpus uteri. The ratio of tumors in these two primary sites as reported in the literature varies greatly. However, the uncontested fact is that a larger incidence of tumors in the cervix has been reported than in the corpus uteri. Some authors have reported 1 corporal carcinoma for every 2 cervical cancers,[11] whereas others have noted a ratio as low as 1 to 8.[17] The average is approximately 1 to 4. In a study of 28,000 cases of cancer in Connecticut proved by microscopic examination Macdonald[11] reported that tumors of the cervix constituted 11.1 per cent and corporal carcinoma 7.7 per cent of malignant tumors in women.

In this communication 48 selected cases of malignant tumors of the corpus uteri from the records of the University of Texas M. D. Anderson Hospital for Cancer Research proved by microscopic studies are reviewed. The types of tumor, suggested possible causes, and therapy presently used at the M. D. Anderson Hospital are discussed.

TYPES OF TUMORS

Carcinoma of endometrial origin constitutes approximately 95 per cent of corporal malignant tumors. The types of sarcoma of the uterus which are seen most frequently are leiomyosarcoma and endometrial stromal sarcoma. Other rare tumors are the mixed mesodermal tumors (sarcoma botryoides) and choriocarcinoma. The types of tumor in our series were endometrial carcinoma 43, stromal sarcoma 2, leiomyosarcoma 1, mixed mesodermal tumor 1, and choriocarcinoma 1.

The diagnosis of squamous carcinoma as primary in the corpus uteri may be questioned, even though some investigators have reported it as such, since careful study frequently shows concurrent squamous carcinoma in the cervix, strongly suggesting that the corporal tumor is secondary to the cervical lesion. We observed no primary squamous carcinoma of the corpus uteri in our series. The basis for acceptance of this diagnosis would be examination of the entire uterus by multiple sections through the tumor to establish that the tumor in no way involves the cervix. It also would be necessary to ascertain that the growth is not an unusually well differentiated adeno-acanthoma, showing only squamous carcinoma in the part examined.

The mixed mesodermal tumors (sarcoma botryoides) are extremely rare, occurring in less than 1 per cent of patients with corporal cancer. Choriocarcinoma (chorionepithelioma) when primary in the uterus invariably has been associated with pregnancy. This tumor should not be considered as strictly an inherent tumor of this organ but more properly as a malignant tumor arising from the extrafetal trophoblastic tissue, occurring once in 20,000 pregnancies.[1]

Subsequent discussions will be limited largely to endometrial carcinoma since this type of tumor comprises approximately 95 per cent of tumors of the corpus uteri. This is the type generally thought of and discussed as tumors of the corpus uteri. Moreover, endometrial carcinoma is a characteristic clinical and pathologic entity to be distinguished from other malignant corporal tumors for reasons of diagnosis and therapy. The sarcomas represent less than 5 per cent of malignant tumors of the corpus[10] and form another distinct group of neoplasms, demanding a different type of therapy and having a different prognosis. Although their importance is not to be minimized, their infrequent occurrence as a malignancy of the uterus does not deserve the attention due endometrial carcinoma. Therapy for the mixed mesodermal tumor and choriocarcinoma generally offers little hope of recovery since metastasis is by the blood stream, usually to the liver and lungs. Therapy to be curative must be given early. Mixed mesodermal tumors and choriocarcinoma are notoriously resistant to irradiation.

Carcinoma of the endometrium in most instances is a well differentiated cancer showing either a papillary growth or an unmistakable glandular pattern. Grading of this tumor is difficult at best since variation in the type of growth may be great in different parts of the same tumor. Since all types of endometrial carcinoma should receive the same type of therapy, the grading of the tumor serves no useful purpose to the clinician. Prognosis based upon grading as to metastasis, rate of growth, and recurrence has not been sufficiently evaluated in a large enough series to be of real value. For these reasons we do not grade endometrial carcinoma.

Endometrial carcinoma arises most frequently in the fundus, usually appearing first as an exophytic type of lesion. It may be of multicentric origin in the endo-

From the Departments of Pathology and Surgery (Gynecology) of the University of Texas M. D. Anderson Hospital for Cancer Research.
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metrial cavity. Approximately 10 per cent of the tumors will show squamous prosoplasia with foci of well defined keratinized cells. This type of tumor, the well known adeno-acanthoma, in our opinion, is but a histologic variant of tumors showing the usual glandular patterns and therefore has no basis for separate clinical or pathologic consideration. Endometrial carcinoma usually extends to the subjacent myometrium for only a short distance unless the disease is long standing. Spread is by the subendometrial lymphatic vessels to the cervix and vagina. Metastasis by lymphatic vessels from the corpus uteri within the superior borders of the broad ligaments is along the course of the ovarian vessels and round ligaments. Endometrial carcinoma in the anterior portions of the supporting structures of the uterus reaches the lymphatic plexus of the upper vagina by the submucosal vaginal lymphatic vessels. This method of spread accounts for the persistent tumor frequently encountered at the line of suture of the vaginal vault after removal of the uterus. In addition, some authors postulate that metastasis may take place through the endosalpinx. Metastasis to the ovaries usually is thought to be by way of the lymphatic vessels to the broad ligaments, with direct extension from there to ovarian tissue.

Etiology of Endometrial Carcinoma

Age.—The age incidence in all series reviewed followed a remarkably similar pattern, ranging from 16 to 90 years with the peak at from 55 to 60 years,[11] in contrast to carcinoma of the uterine cervix, which has its peak ten years earlier at 45 to 50 years.[11] Endometrial cancer therefore is a postmenopausal disease, whereas cervical cancer is generally a premenopausal disease. The average age of patients in our series, 56.7 years (the range being from 23 to 76 years), was essentially the same as that in other series.

Not only is endometrial cancer a postmenopausal disease but many such patients have delayed menopause. The age range for the menopause in women having endometrial cancer has been reported by Corscaden and Gusberg[3] as 52 to 54 years, compared to the usual 45 to 50 year range. Randall[16] reported that in 35 per cent of his cases of endometrial cancer the patient menstruated after the age of 50 years, in contrast to only 8 per cent of noncancerous patients with menses persisting after 50. The age at onset of menopause in our series ranged from 35 to 57 years; 9 patients had not yet entered their menopausal period, 3 had undergone surgical menopause, and the average age of the remainder at the onset of menopause was 47.6 years.

Race.—Statements in the literature one hundred years ago indicating that carcinoma of the uterus was infrequent in Negro people are now questioned. The incidence of carcinoma of the uterus in the Negro woman at that time, for example, revealed it as a rare disease, whereas today the incidence is reported to be the same in Negro and in white women. The most likely explanation for the apparent increase of the disease in recent periods is better medical observation of the Negro, with more accurate diagnosis, than to changed sociologic or environmental factors.

Marital Status and Pregnancy.—The incidence of endometrial carcinoma is high in nulliparous women[5] as compared with cervical cancer, which has a high incidence in multiparous women.[4, 18] Dearnley[4] reported a study of 129 cases of corporal cancer from the Royal Free Hospital in England, noting 31 per cent of the women with cancer as unmarried; of the 69 per cent with cancer who were married, 17 per cent were nulliparous. Forty per cent of the women studied were nulliparous. Speert[18] studying 255 cases of uterine cancer from the Roosevelt Hospital in New York found 18 per cent of the patients unmarried and 41 per cent nulliparous.

The patients in our series were all married except 2, in contrast to the usual 20 to 30 per cent of unmarried patients. Moreover, 37 were multiparous and averaged 4.6 children per patient, which of course is not the usual infertility seen in women with endometrial cancer. These variations from the usual incidence may be accounted for by the fact that abnormal selection of cases occurs at a state cancer hospital, plus the fact that 10 of the 43 patients were Negro women, whose childbearing period normally is begun earlier in life when the relative fertility is high. Eighteen with endometrial cancer began their menopause after 50 years of age. Twenty-nine were admitted with the chief complaint of postmenopausal bleeding.

Evidence of Endocrinologic Imbalance.—The work of Leiberman and his colleagues[10] demonstrating derangement in the metabolism and excretion of steroid hormones in patients with neoplastic disease applies to the problem of cancer.

Uterine cancer occurs preponderantly in the postmenopausal period in women with delayed menopause and commonly is associated with infertility and fibrocystic disease of the breast. The uterus is often enlarged. When present, the degree of enlargement of the uterus is disproportionate to the bulk of the cancerous tissue and is due to hypertrophy of the myometrium. The enlargement precedes the development of the tumor and is presumed to be in response to some endocrine stimulation. This hypertrophy occurs in spite of the fact that women at 50 years normally have depressed ovarian function. It has been determined, in some studies[19] that the tumor represents but from one-fifth to one-tenth and in some cases as little as one-twentieth of the uterine mass. Therefore, the size of the uterus is of little or no value in plan-

ning the treatment nor in the prognosis since it is no indication of the extent of the disease. Histologic examination of uterine tissue from such patients discloses myometrium of the type seen in young women. A common set of etiologic factors may be responsible for the hypertrophy of the uterus and the genesis of the cancer.

A possible relationship of hyperplasia of the endometrium to endometrial carcinoma frequently is discussed. Hertig[6] noted an increased incidence of endometrial hyperplasia of the adenomatous type preceding the development of unquestioned malignant neoplastic change in the endometrium some years later. He believed that a "carcinoma in situ" type of lesions as is seen in the cervix can be demonstrated in the endometrium.

The role of estrogens in the causation of endometrial hyperplasia is not yet established. Moreover, hyperplasia as a constant change preceding the development of endometrial cancer has not been confirmed. According to Hertig and Sommers[6] there is some clinical evidence to suggest that estrogens play a significant role. An extra-ovarian source for the estrogens has been postulated. If estrogens are significant, the extra-ovarian source must be accepted to explain the development of endometrial carcinoma after irradiation castration. Hertig and Sommers believed that the patient who requires irradiation castration for menorrhagia is one in whom "premalignant" changes already exist. In such a case the castration dose, which is always less than lethal for cancer cells, may be the factor producing the cancer. Some investigators do not subscribe to the theory that excessive stimulation with estrogens may lead to hyperplasia of the endometrium, followed by carcinoma.[2] After the menopause, endometrial hyperplasia (or the endocrine dysfunction responsible for it) seems definitely to predispose to the development of carcinoma. The incidence of endometrial hyperplasia in women with carcinoma has been reported as 21 per cent.[14] The association of carcinoma with ovarian tumors producing estrogens is ten times greater than the expectancy in patients not having abnormal estrogenic stimulation.[8]

Obesity.—A high percentage of obesity is reported in patients with endometrial carcinoma. Palmer[15] observed that 35 per cent of patients with endometrial carcinoma were 40 pounds overweight or more. Diabetes mellitus in various studies is reported as occurring in from 10 to 16 per cent of cases.[12, 15, 17] One-half to one-third of the patients in whom endometrial carcinoma develops show long standing abnormalities of menstruation. When such a history exists, the chance of endometrial carcinoma developing is three times as great.[16]

TREATMENT

In any neoplastic disease accurate histologic diagnosis and precise knowledge as to location of the tumor is of paramount importance to the physician charged with the responsibility for selection of therapy. Studies as to the precise location of the cancer, that is, fundus, endocervix, or both, are not undertaken routinely by most attending physicians. We believe it extremely important that the exact location and extent of the tumor be determined by fractional curettage. This information is essential not only for the proper clinical classification of the disease but for the choice of therapy. Fractional curettage with specimens taken from the cervix, endocervix, and fundus will reveal the extent of the disease and frequently determine the primary site. If the lesion is primary in the endocervix or if extension from the corpus uteri has occurred, a different pattern of therapy will be used.

Information regarding the location and extent of the lesion has proved of invaluable assistance in the proper application of radium. If, for example, tumor tissue is seen in specimens from the fundus as well as the endocervical canal, a precalculated dose of cancerocidal ionizing energy must be delivered to both areas if therapy is to be adequate. On the other hand, if the tumor is confined to the fundus, the lower uterine segment and cervix need not be so heavily irradiated. Appropriate studies will indicate the distribution of radium sources necessary for adequate tumor control.

The principle of application of intracavitary radium used at the M. D. Anderson Hospital follows closely Heyman's technique.[7] The aim is to deliver a total of 4,800 gamma r to a distance of 2 cm. below the endometrium. This dosage is given in two treatments three weeks apart. The normal pattern of regional lymphatic metastasis of tumor is through the superficial lymphatic vessels beneath the endometrium to the cervix and the vaginal vault. It will be recalled that metastasis occurs also along the lymphatic vessels following the ovarian vessels. Irradiation in the vault of the vagina to kill any metastatic tumor cells is advisable since so many recurrences appear in that location. In the past insufficient attention has been given to the possibility of spread to this area.

In addition to the intra-uterine radium therapy 3,000 gamma r is given to the vaginal mucosa by means of Manchester ovoids placed in the lateral fornices. The long axis of the radium sources is placed perpendicular to the long axis of the vagina. By means of linear sources of radium in the center of a plastic cylinder an additional 3,000 gamma r is given at the time of the second radium insertion. The reason for this type of therapy is that after the first application of radium shrinkage of the tumor and uterus occurs. This shrinkage provides a greater range of effective-

ness for the second dose and a greater chance to give an adequate dose at the base of the tumor.

After this regimen of irradiation, usually a total hysterectomy and bilateral salpingo-oophorectomy is performed with removal of a fair amount of the adjacent vaginal mucosa. If, however, metastases to the pelvic lymph nodes are found at the time of operation, more radical surgery is indicated. Advanced age of the patient, an extreme degree of obesity, or the presence of diabetes usually will preclude such radical surgery. If tumor is present in the aortic nodes, it may be assumed that the lesion was an unusually rapidly growing mass, or that neglect for a long period had allowed the development of distant metastases. When metastases are observed in the aortic nodes and above the brim of the pelvis, neither surgery nor irradiation offers any hope for cure. Radical dissection of lymph nodes as a routine surgical treatment for patients with endometrial carcinoma is not recommended except in certain unusual cases.

With the previously outlined irradiation regimen, pathologic examination after surgical removal of the uterus in many cases will show no viable tumor. Tumor cells, if present, are in small numbers and in all instances show advanced irradiation change. The nuclei are pyknotic and frequently show fragmentation of the chromatin. Cytoplasmic changes consist of small and large vacuolization and loss of a clearly defined cell border. The cells tend to be packed together and do not form anatomic structures such as glandular acini.

With essentially the same technique for the application of the radium and without the use of surgery Heyman,[7] at the Radiumhemmet in Sweden, reported a five-year survival rate of 63 per cent for patients with endometrial carcinoma. We choose to perform hysterectomy after irradiation with radium. Total hysterectomy and bilateral salpingo-oophorectomy, without lymph node dissection and with modern surgical techniques, adds so little to the mortality rate that we believe it justified. Despite the fact that in many instances a careful search for residual tumor is negative, the examiner cannot be sure that viable cells are not present.

Radium is preferred to roentgen therapy for preoperative and postoperative use because it delivers a greater dose to the tumor in the uterus and to the potential microscopic foci of tumor cells in the vagina. Many investigators question the effectiveness of the classic roentgen treatment as far as destruction of metastatic cancer in lymph nodes is concerned. Roentgen irradiation for tumors that have extended beyond the confines of the uterus is only palliative since accurate direction of the roentgen beam is necessary to destroy metastasis in the involved pelvic lymph nodes. Because the previously mentioned therapeutic routine is used in endometrial cancer without regard to the degree of differentiation of the tumor, grading of the cancer is of academic interest only.

Our series is not sufficiently large and has not been followed sufficiently long to evaluate results of the therapy used.

SUMMARY AND CONCLUSIONS

A clinicopathologic study of 48 cases of malignant tumors of the uterus is presented. In this series were 43 endometrial carcinomas, 2 stromal sarcomas, 1 leiomyosarcoma, 1 mixed mesodermal tumor, and 1 choriocarcinoma.

Endometrial carcinoma is the largest single type of malignant tumor of the uterus and comprises from 90 to 95 per cent of malignant tumors of the uterine body. The common age incidence of the tumor, its relationship to pregnancy, and the frequent association of clinical or pathologic changes suggesting some endocrine imbalance provide the basis for regarding endometrial carcinoma as a distinct clinical and pathologic entity.

Treatment of endometrial carcinoma is based on accurate localization of the tumor by fractional curettage. Cancerocidal doses of ionizing irradiation by intra-uterine and intravaginal radium should be given, followed by surgical removal of the uterus, fallopian tubes, and ovaries.

Grateful acknowledgment is made to Dr. Gilbert Fletcher for his assistance and advice in the discussion of the therapy of endometrial carcinoma.

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ABSTRACT OF DISCUSSION

DR. C. T. ASHWORTH, Fort Worth: The discussion of the relationship of uterine carcinoma to endocrinologic disturbances by Dr. Russell and his associates is particularly timely and the evidence favoring a hyperestrogenic status in these cases is convincing. Pathologists are concerned particularly about the relationship between endometrial hyperplasia and carcinoma of the fundus. In spite of several observations indicating no relationship between hyperplasia and carcinoma, data presented in the paper by Dr. Russell and his colleagues, as well as that given by Speert recently, indicate a close relationship between the two conditions. At least it seems fairly certain that carcinoma develops more frequently in the presence of hyperplasia, but whether this means that the substratum for the development of the two conditions is the same or that endometrial hyperplasia progresses directly into carcinoma I do not believe can be stated.

Along this same line, the possibility of adenocarcinoma of the endometrium resulting from prolonged estrogenic therapy is of great importance. The numerous cases of carcinoma of the endometrium developing in the course of such therapy recorded in the literature and the remarkably high incidence of carcinoma of the endometrium in cases of estrogen-producing tumors of the ovary suggest strongly that prolonged estrogen therapy may encourage malignancy.

The simultaneous occurrence of uterine leiomyomas and endometrial carcinoma also has been studied with considerable care. Although earlier opinions suggested that the two conditions tended to occur together, more recent studies, particularly those of Speert, show that on the basis of statistical observations there is no real correlation. In fact, it may be well to inject a note of caution about conclusions tending to relate various conditions to one another in uterine cancer, a point which has been brought out particularly well by statistical studies on carcinoma of the cervix by Lombard and Potter.

During the past two years material from 101 cases of carcinoma of the fundus of the uterus has been examined in our laboratory. It is a little disturbing to notice that as far as our records go, 33 uteri were removed surgically without previous diagnosis by curettement. I am sure, however, that a great many of these patients had diagnoses by frozen section before hysterectomy. Nevertheless, there were a considerable number of cases in which knowledge of the presence of endometrial carcinoma was not available at the time of surgery. This lack of sufficient preliminary diagnostic studies was shown also by the fact that in the group of patients in whom no previous curettement apparently was done, nine of the uteri were removed by supracervical hysterectomy and in an additional 6 cases no fallopian tubes nor ovaries were excised. On the other hand, when previous diagnosis by curettement was made, all except 2 patients received adequate surgical treatment.

From our material we were not able to determine what number of surgeons are using preoperative roentgen or radium therapy. The relatively good prognosis associated with treatment of adenocarcinoma of the fundus of the uterus is partly explainable by the relatively slight tendency for carcinoma to invade the myometrium. In our material it is notable that in 25 per cent of the cases the carcinoma appeared to be limited to the surface. In an additional 33 per cent, there was only slight invasion of the myometrium, that is, confined to the inner half of the myometrium. The remaining cases showed deep invasion involving the outer portions of the myometrium, but in many of these no disease was detected in the adnexal tissues which were received.

DR. A. O. SEVERANCE, San Antonio: During the period 1937-1938, when I was a resident in pathology at the Cancer Hospital at Pondville under Dr. Shields Warren, I heard him say that in a series of 45 cases of carcinoma of the fundus of the uterus treated with intracavitary radium and then followed with hysterectomies, 41 patients showed persistent viable carcinoma. This illustrates simply that radiation therapy alone is not the entire answer.

Myths About Atomic Dangers

Some of the myths which have grown up about atomic weapons are dispelled in a pamphlet entitled "Survival Under Atomic Attack" released by the National Security Resources Board. For example, it points out:

1. Atomic weapons will not destroy the earth.
2. Doubling bomb power does not double destruction.
3. Radioactivity is not the bomb's greatest threat—blast and heat are.
4. Radiation sickness is not always fatal.

Intravenous Breathing Studied

A means of providing the body with oxygen when the lungs are disabled is being developed by B. G. Lary of the University of Illinois College of Medicine, reports the January issue of *Scientific American*. Mr. Lary recently reported his experiments to the American College of Surgeons, pointing out that he has kept dogs alive for fifty minutes in an atmosphere entirely lacking in oxygen and that the animals survived without apparent damage. He anesthetizes the animal, injects heparin to prevent blood clotting, opens an artery and a vein in its leg, passes the blood from the artery through tubes and a porcelain filter, where it picks up oxygen, and then lets the blood flow back into the vein. Prevention of bubbles in the blood is achieved by use of the filter and a wetting agent.

EFFECTIVENESS OF PURIFIED ACTH

The purification of corticotropin (ACTH) has made the hormone drug at least 250 times as effective and has reduced the dosage requirements, report four physicians at Tufts College Medical School, Boston, in the March 8 issue of *The Journal of the American Medical Association*.

"The increased therapeutic efficiency achieved by purification reduces the dosage requirement and thus, in effect, makes available an increased amount of corticotropin for clinical use," the doctors state.

The sun is the greatest of remedies.—Pliny, Natural History, A. D. 77, Brit. J. Tuberc. & Diseases of the Chest, July, 1951.

CARCINOMA OF THE CERVIX

GEORGE TURNER, M.D., and H. F. HESLINGTON, M.D.,
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IN our laboratory the cervix has been observed to be the second commonest site of malignancy in either sex; only skin cancer in men is more common. Carcinoma of the cervix is two to three times as common as cancer of the breast and six to seven times as common as carcinoma of the fundus.

During the past four years we have performed 1,353 cervical biopsies. In this study 103 malignant lesions were found in 90 patients. Five of these patients had adenocarcinomas, 9 preinvasive carcinomas, and the remainder epidermoid carcinomas. According to the League of Nations classification, 70 per cent of the tumors were in stages 1 or 2 and 30 per cent in stages 3 or 4. The age distribution was essentially similar to that reported elsewhere. The advanced state of many of the lesions and the rather high incidence of carcinoma in biopsies (1 in 13) indicated that at times both patient and physician ignore lesions of serious import and anatomic diagnosis is not established until late in the course of the disease. We are convinced that any and all lesions of the cervix must be subjected to biopsy as soon as possible if patients are to be treated earlier.

Any method of biopsy that delivers to the pathologist sufficient and proper tissue to enable a conclusion as to the presence or absence of tumor is adequate. Our method is relatively simple and has given satisfactory results. One to several bites of tissue are taken from the lesion if it is evident or from the squamocolumnar junction if not. A sleeve-type endocervical biopsy instrument is inserted into the canal and multiple small bits of endocervix are removed. These specimens are immediately fixed.

PRECANCEROUS LESIONS

The term precancerous lesion, despised by many pathologists and most surgeons, is useful if its meaning is limited to lesions exhibiting an abnormal growth of hyperchromatic atypical cells but lacking some evidence of malignancy. Used in this manner the term indicates a lesion in transition that can terminate in benignancy or malignancy. Implied is the fact that if the tendency toward cellular atypia proceeds, the lesion will terminate in malignancy. The point of no return in cervical cancer is not well defined. Since carcinomas in situ have regressed, invasion can be adopted as a dividing line between premalignant and malignant lesions. In the material under consideration all lesions not exhibiting invasion were considered precancerous.

Precancerous lesions show varying degrees of atypia and hyperplasia. As a rule they begin as a plaque about the external os. Even in biopsy material lesions 1 cm. in diameter are common. While it is probable that all lesions begin in the cells of the basal layer, in early changes these cellular anomalies are at times more apparent in the parabasal cells or those of the spinous layer. This phenomenon apparently is related to the distance of the cell from the tissue fluids, as it is common in malignancies to observe extremely bizarre cell forms in the centers of cell cords and about foci of degeneration and necrosis. If cancer results from a loss of one or more strategically situated enzymes, as postulated by Potter,[3] it is reasonable to expect that adverse conditions would first be felt in these deficient cells. Although atypical cells are usually scattered about initially, sooner or later they replace the entire epithelium, forming plaques. The rate at which these changes develop is probably subject to wide variations, but in most cases the process is slow. When the normal epithelium is completely replaced and the cells are indistinguishable from those of invasive cancer but do not extend into the stroma, the lesion is termed a preinvasive carcinoma or carcinoma in situ.

The majority of preinvasive carcinomas are little or no thicker than the adjacent normal epithelium; they are composed of cells resembling basal or parabasal cells, and the underlying basement membrane is usually smooth or subject to gentle undulations. On the other hand, leukoplakias have a thickened epithelium, are composed of acanthous cells predominantly, and usually exhibit an uneven saw-toothed or lobulated inferior margin. In the first instance the cells seem simply to grow to the limit of sustenance and desquamate with little or no pressure being exerted on the basement membrane. In the second, the formation of a palpably dense, keratinized layer of cornified epithelium forms a barrier of sufficient strength so that the pressure incident to continued proliferation of the basal cells is manifest by indentation of the basement membrane.

Mechanical factors may be of some importance in determining the point and time of invasion in carcinoma in situ. The tendency of this lesion to extend into glands and replace the mucous epithelium tempts one to explain invasion as a result of pressure arising from continued growth within a closed space. In reviewing this material, however, it was not pos-

Read before the Section on Clinical Pathology, Texas Medical Association, Annual Session, Galveston, May 2, 1951.

sible to show that such was the case. Invasion was apparent as often from the surface cells as from those within glands. It seems likely that although the cells in preinvasive and invasive carcinoma are histologically identical, marked differences in their abilities to reproduce themselves in an alien environment exist.

INVASIVE EPIDERMOID CARCINOMA

In most instances carcinoma in situ develops slowly, becoming invasive after a period of years. There is evidence that most if not all invasive malignancies pass through transitional phases to carcinoma in situ and thence to invasive malignancy. The patterns of invasive carcinoma are too familiar to detail in this paper. Most commonly the growth is composed of cords of cells of varying size. Occasionally sheets of cells are formed. In the better differentiated lesions keratinization is common, whereas in the more anaplastic growths the cells more nearly resemble basal cells. Most lesions vary considerably in the state of differentiation at different locations in the same tumor. Appreciable desmoplasia is uncommon, although in a single case in this group there was a sarcomatoid transformation of the stroma. In general, cervical carcinoma extends directly through the tissue spaces or the fine lymphatic vessels of the cervix with more or less destruction ultimately gaining access to the lymphatic trunks.

The lymphatic vessels of the cervix form a rich plexus laterally and are gathered into three trunks. The preuteral, which follows the course of the uterine

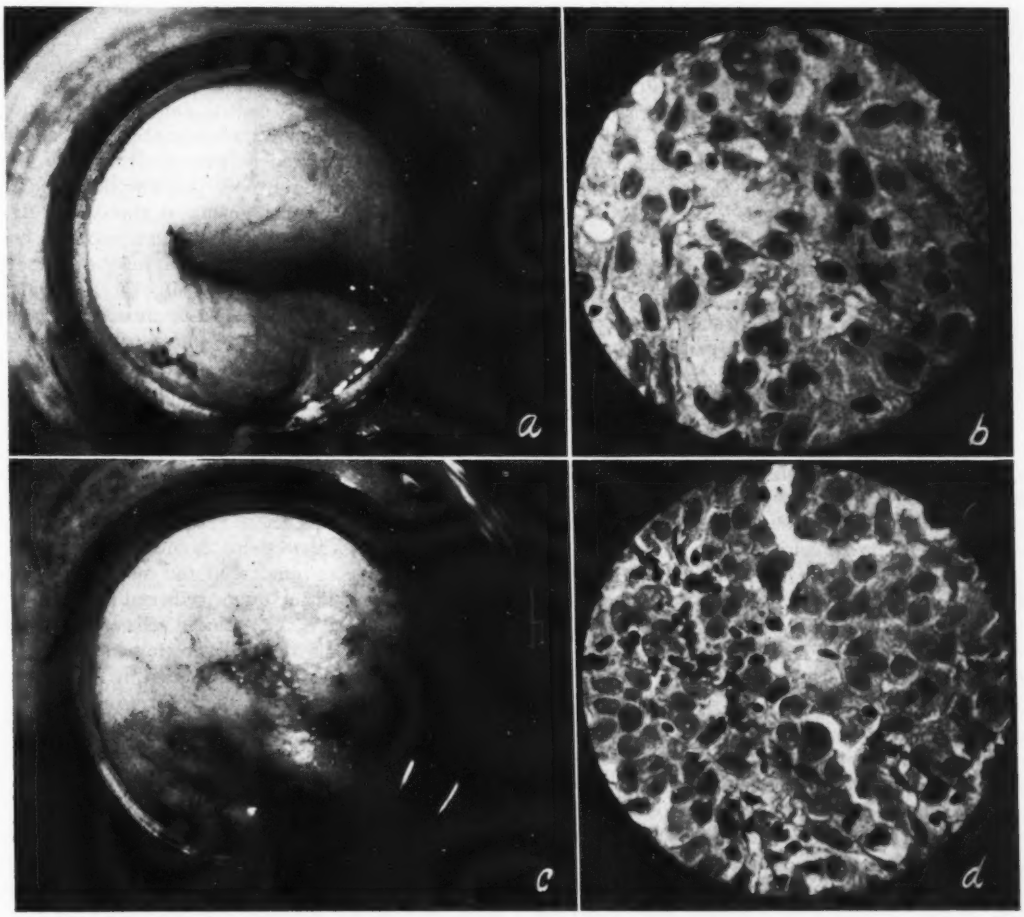

FIG. 1a. Case 1. Mrs. C., aged 45 years, had epidermoid carcinoma of the cervix, stage 2, grade 2. Photograph was made two and one-half months after radiation therapy.

b. Case 1. Photomicrograph of lesion before treatment.

c. Case 2. Mrs. P., aged 39 years, at the time of treatment had epidermoid carcinoma of the cervix, stage 1, grade 4. Photograph was made eleven years after radiation therapy.

d. Case 1. Photomicrograph of lesion from a section made before treatment.

artery, passes anteriorly to the ureter and terminates in the middle and internal group of nodes in the external iliac chain. The retroureteral pedicle follows the uterine vein behind the ureter and terminates in the hypogastric nodes. The posterior pedicle extends alongside the rectum emptying into the parasacral nodes or those near the promontory.[1]

Taussig[4] reports that of 83 patients on whom iliac lymphadenectomies were done for group 2 cancer of the cervix 29 contained tumor, and 2 of 7 patients with group 3 cancer had positive reports. Of these involved nodes 69 per cent were in the hypogastric glands. Less frequently the metastases were to the periureteral glands. Warren,[5] from a study of autopsy material, noted no metastases in 13 of 23 grade 1 lesions, 10 of 44 grade 2, and 2 of 18 grade 3 lesions. Visceral metastases were present in 1, 16, and 12 cases respectively.

Despite these figures we believe as did Ewing,[2] "...cervical carcinoma follows the usual rule of acanthoma, viz.; to destroy the originating tissue, extend with induration and ulceration to the first barrier of lymph nodes then cease its progress. There are, however, highly anaplastic epidermoid carcinomas and glandular carcinomas of the cervix which extend widely."

It is this characteristic of cervical carcinoma that makes the tumor amenable to radiation therapy, and it is likely that the extensions to the nodes outside the field of effective radiation is responsible for many if not most of the failures.

THE TRANSITIONAL ZONE

The effect of malignant cells on the adjacent nonmalignant cells is highly interesting. The transitional zone between carcinoma and nonmalignant tissue varies. In the fibrous tissue there is usually an apparent increase in vascularity, an inflammatory reaction, and a slight proliferation of connective tissue. The transition between carcinoma and mucous epithelium is abrupt with no gradient of change. Between carcinoma and normal squamous epithelium the zone is variable.

In preinvasive lesions the change is usually gradual. In no case in our series was a neutral zone noted. In some lesions that originate over a wide area the process appears older at one end than at the other, as evidenced by the fact that the replacement of the mature cells is complete in areas and partial in others with a resultant oblique line of transition. In these lesions the mature elements overlying the tumor cells show marked degenerative changes. The nuclei are pyknotic and the cytoplasm dense even though the overlying cells are no farther removed from their source of nutrition than normally. Since there is no evidence that malignant cells elaborate noxious substances, it is reasonable to assume that cell death is incident to a deprivation of nutriments by more rapid removal by the tumor cells or mechanical interference to diffusion.

The plaquelike nature of these lesions and the oblique line of transition has been explained on the basis of growth by assimilation; that is, a tumor cell in the basal layer influences the adjacent cell to become malignant also. Although this phenomenon occurs and is intriguing, it is unlikely that in early lesions or lesions confined to the surface, such a method is of much importance. The slow rate of extension of surface lesions and the illustrated fact that the plaque can exist over a wide area, even prior to displacement of the normal cells by the underlying tumor, make it more reasonable to assume that the primal cause was operative over a wide area, but that either because of differences in local concentration or cellular responsiveness, the effect was manifest at different times.

In invasive malignancies the transitional zones are somewhat different. A neutral zone is more common and there is a greater variation at the junction. Most commonly the junction is fairly abrupt but with the normal cells becoming more polymorphous and hyperchromatic as the malignancy is approached. It is commonly difficult to say where the malignancy ends and normal tissue begins. Lesions varying from invasive malignancy to surface malignancy to atypical hyperplasia to simple hyperplasia are seen in many. On the other hand, the epithelium overlying an invasive malignancy but not in direct contact with it shows usually only mild or no changes. The histologic evidence that tumor cells induce anaplasia in sensitized adjoining cells of the same type is convincing. The steplike gradations are common in tumors in many parts of the body and kissing carcinomas occur with too great frequency to explain the phenomenon on the basis of carcinogenic agents alone. Two explanations come to mind: (1) the carcinogenic substance is present in the tumor cells and can be transmitted by contact or (2) cancer cells in some way assimilate materials normally instrumental in controlling growth. In carcinomas caused by the application of chemical substances the agent cannot be identified in the tumor; hence, unless the tumor cells themselves form a carcinogen or the cells harbor a virus-like particle, the second assumption seems more likely.

SUMMARY

Various premalignant and malignant lesions are discussed, along with hypotheses attempting to explain some of the anatomic changes observed.

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ABSTRACT OF DISCUSSION

DR. CHARLES PHILLIPS, Temple: The paper of Drs. Turner and Heslington is another useful addition to the increasing volume of material on cancer of the cervix and represents personal observations from actual study of considerable material.

In Scott and White Clinic we are beginning a comprehensive study of lesions of the cervix. In the three decades from 1920 to 1951 cancer of the cervix verified by microscopic examination was the diagnosis for 540 patients. During this time nonmalignant disease was observed in 3,095 cervical biopsies. This gave an incidence of 1 cancer in 5.7 biopsies of all kinds. Our laboratory service has always received a high rate of tissues for gynecologic study and surgeons in the clinic have taken a great many biopsy specimens. I have not attempted to separate the early from the advanced cases but in this brief study have noted few in situ cancers. No follow-up data are ready now, although our Tumor Clinic files for ten years give figures not unlike those recorded by Drs. Turner and Heslington.

Forever, pathologists have been cytologists even though some physicians appear to think that "cytology" is quite new. I have noticed the urge to extend cancer study to smaller and smaller amounts of tissue until the single cell is examined to see if it can be identified as being from a tumor. Texas pathologists have been alert to these tendencies and have informed themselves in methods of exfoliative cytology as well as in the newer phases of detection of malignancy in biopsy material by recognizing and practicing up-to-date surgical pathology. The paper under discussion illustrates this approach.

Frozen sections are of the greatest help in these studies but should be well done and followed by fixed sections if possible. Surgeons should not be stingy with biopsies from the cervix, for this merely handicaps everyone. I advocate the recording of tissue bites in reference to the face of a clock, for although therapy may affect the whole cervix, it is wise to know not only the degree of neoplastic change but its position in the cervix. In our institution are done hundreds of excisional biopsy studies and almost no Papanicalaou-type smears and stains; we prefer hematoxylin and eosin stain. We have participated in no surveys in screening cancer cases by cytologic methods.

Until recent years almost none of our patients was treated by hysterectomy for cancer of the cervix, and even now we are very conservative. Almost every one of our patients with cervical carcinoma has been treated by radium or roentgen ray or a combination.

I share the general opinion that few cures are had in late carcinoma of the cervix, but that there is much hope for early cases and that much more education in detection and treatment in this group is necessary.

Financing of Hospital Care Under Study

A Commission on Financing of Hospital Care, initially sponsored by the American Hospital Association but established independently, is beginning a two-year study of the problem of hospital operating costs and expects to come up with some facts which will benefit both the hospitals and the patients. With thirty-three members representing agriculture, education, hospitals, industry, labor, medicine, nursing, public health, public welfare, and religion and a staff headed by Graham L. Davis, past president of the American Hospital Association on leave of absence from the W. K. Kellogg Foundation, the commission study is financed by a $500,000 fund contributed by five foundations and an insurance company.

The scope of the problem is suggested by the following facts: By late 1950 approximately 8 billion dollars had been invested in hospitals (about $5,300 per bed). Two million more people or 21 per cent more were hospitalized in 1950 than in 1946, but the average length of stay had been reduced from 9.1 days in 1946 to 8.1 days in 1950. Expenses per patient day in hospitals rose from $9.39 in 1946 to $15.62 in 1950, a 66 per cent increase, while patient income to hospitals per patient day rose from $7.75 in 1946 to $13.11 in 1950, a 69 per cent increase. Despite the greater percentage rise in patient income than in patient day expense, the dollar gap between the two increased from $1.64 in 1946 to $2.51 in 1950. The margin of total income over total expenses was reduced from 38 cents per patient day in 1942 to 18 cents per patient day in 1950. During 1950 hospitals received 23 cents of every dollar spent for medical care as compared with 14 cents in 1930 and 17 cents in 1940.

Present trends indicate that even higher costs may be expected by hospitals. Voluntary contributions to hospitals are meeting a smaller and smaller percentage of total costs, and in many instances, governmental payments for public charge patients are less than actual costs. Private patients are paying a larger share of hospital costs because their resources are easiest to tap. The demand for hospital care is increasing, as is the demand for expensive diagnostic and preventive services. More persons are enrolled in voluntary nonprofit prepayment plans and are increasing their demands for hospital benefits.

The Commission on Financing of Hospital Care has set six objectives:

1. Evaluation of the current financial position of hospitals.
2. Determination of the need and demand for hospital services.
3. Analysis of the effect of medical practice on hospital costs.
4. Establishment of means for obtaining needed high quality hospital services at the lowest possible costs.
5. Evaluation of systems of payment for hospital care.
6. Investigation of methods for facilitating the most effective utilization of hospital resources.

Regional conferences to determine the most urgent problems related to the financing of high quality hospital services already have been held, and a national technical advisory committee will help shape the study which the commission plans.

Antimalarial Drug to Be Tested

Follow-up tests on primaquine, the new antimalarial drug, will be started by Army medical research teams among 1,000 soldiers who have returned from Korea. The tests will be made on volunteer subjects who were exposed to malaria in Korea but have no history of the disease. The tests are expected to prove the drug's ability to prevent attacks of clinical malaria.

SQUAMOUS METAPLASIA OF THE CERVIX UTERI

Follow-Up Study to Determine Its Malignant Potentialities

FRANK M. TOWNSEND, M.D., Col., M.C., Lackland Air Force Base, Texas, and VERNIE A. STEMBRIDGE, M.D., Galveston, Texas

IN recent years the widespread use of the Papanicolaou[8] technique for the diagnosis of cervical carcinoma has produced voluminous literature concerning the virtues and limitations of this method of clinical study. Many authors have presented photomicrographs of carcinoma of the cervix which had been diagnosed previously by the smear technique. We realize that a photomicrograph alone places the diagnostician at a distinct disadvantage in evaluating the minutiae of cellular detail appreciated by microscopic study of the tissue. However, from a perusal of many of the photomicrographs of carcinoma in situ in the literature, the question as to the differentiation of squamous metaplasia of the cervix from preinvasive carcinoma has been raised.

Novak,[7] in discussing an article by Lock and Caldwell,[6] pointed out that "many of the milder degrees of so-called basal cell hyperactivity which have been stressed and probably overstressed as precursors of cancer are probably of cyclical or hormonal nature. This is further suggested by the remarkable pseudomalignant changes in the squamous epithelium which have been noted during pregnancy and are quite surely due to the large amounts of estrogen characterizing the latter." Similarly, TeLinde and Galvin[10] stated that with present knowledge the physician cannot be dogmatic concerning the finest epithelial changes necessary to justify the diagnosis of early cervical cancer. These authors showed that perhaps the greatest factor in the increase in the detection of intra-epithelial carcinomas has been the actual increase in the number of biopsy specimens taken in recent years rather than erroneous interpretation of the histologic changes. Howard and his associates[4] have presented 7 cases of moderate to marked squamous metaplasia which exhibited cellular atypicalities. In different areas of these lesions they observed not only the morphologic and cytologic features of metaplasia but also the cytologic feature of intra-epithelial carcinoma. These authors stated, however, that although this observation suggests a relationship between metaplasia and intra-epithelial carcinoma, it is not inevitable that metaplasia leads to carcinoma. The 7 cases illustrated by Howard and his associates certainly indicate the difficulties in differentiating the exact dividing line between severe squamous metaplasia and intra-epithelial carcinoma of the cervix.

To be sure that we were not diagnosing preinvasive carcinoma as squamous metaplasia, it was believed that only by a follow-up study could our diagnosis be established with any degree of certainty. In this evaluation study all nonmalignant conditions of the cervix seen by physicians on the pathology service of John Sealy Hospital from 1928 to 1950 were reviewed. The diagnoses were made by a number of different pathologists throughout the years, and each case was carefully reexamined to confirm the presence of squamous metaplasia. It was decided to investigate those patients with squamous metaplasia to determine how many subsequently developed carcinoma of the cervix.

METHOD OF STUDY

The data compiled were obtained from the clinical and pathologic records of the John Sealy Hospital from 1928 to 1950 and from the John Sealy Hospital Tumor Clinic during the period 1945 through 1950. A total of 178 cases in which the diagnosis of squamous metaplasia was made upon biopsy material alone was considered valid for the purpose of this study. Eliminated, of course, were 148 additional cases of squamous metaplasia of the cervix in which the diagnosis was made on a specimen including the entire cervix or uterus. The entire file of pathologic specimens in which the cervix was present, excluding malignant conditions of the cervix, was reviewed. A total of 2,221 separate cases was scrutinized carefully for the presence of squamous metaplasia.

A follow-up record was obtained in 87 or 49 per cent of the 178 cases. Communication was established by several different methods. The Social Service Department of the John Sealy Hospital held personal interviews in 16 cases and questioned the patients regarding their present health status and genital symptoms. Letters from 34 patients answering specific questions regarding their health, such as vaginal dis-

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Read before the Section on Clinical Pathology, Texas Medical Association, Annual Session, Galveston, May 2, 1951.

charge, low back pain, and general health status were received. The hospital records of 32 patients were considered valid since in subsequent hospital visits the course of the cervical lesion had been followed. Upon receiving our inquiry, 5 patients visited their physicians, who in turn reported their findings to us.

RESULTS

Of the 87 patients who had follow-up studies, no information which would indicate that any of them developed carcinoma of the cervix was gained. Five of these 87 had died, 3 within a year of the biopsy. An autopsy was performed on 2 and no evidence of carcinoma of the cervix was found, both patients having died of hypertensive cardiovascular disease. One of the 3 patients dying within a year's time had death attributable to a typical renal carcinoma which was removed surgically. The 2 remaining deaths occurred five and seven years after biopsy and from the available data neither of these patients had carcinoma of the cervix. The course of the disease was followed for from one to two years in 32 patients, from two to five years in 31 patients, and from five to twenty-two years in 21 patients.

DISCUSSION

It is obvious from the foregoing statements that the present survey is subject to numerous inherent errors. Among these could be cited the fact that the vast majority of patients could not return to John Sealy Hospital for a thorough check-up. Also, as indicated previously, our source of information, and therefore our conclusions, are based on a composite of opinions. Of extreme importance are the 51 per cent of patients who could not be reached. The point could be raised that if any cases of carcinoma subsequently developed, they might have been in this group.

On the other hand, it is believed that this study encompasses one of the largest available reservoirs of material in the Southwest. In reviewing the 2,221 cases of nonmalignant conditions of the cervix, a close correlation of the diagnoses made by different physicians throughout the years was observed. Therefore, it was thought that this survey may be of some benefit in evaluating the diagnosis of squamous metaplasia and its relationship to cancer of the cervix. Photomicrographs of representative examples of squamous metaplasia which were followed for varying periods are presented in figures 1 and 2. It is emphasized that this study does not lend any new concept to a condition that is already well understood.

Halpert and his colleagues[3] noted that 10 per cent of carcinoma of the cervix in their patients was in the incipient stage and cited Cox and his associates[1]

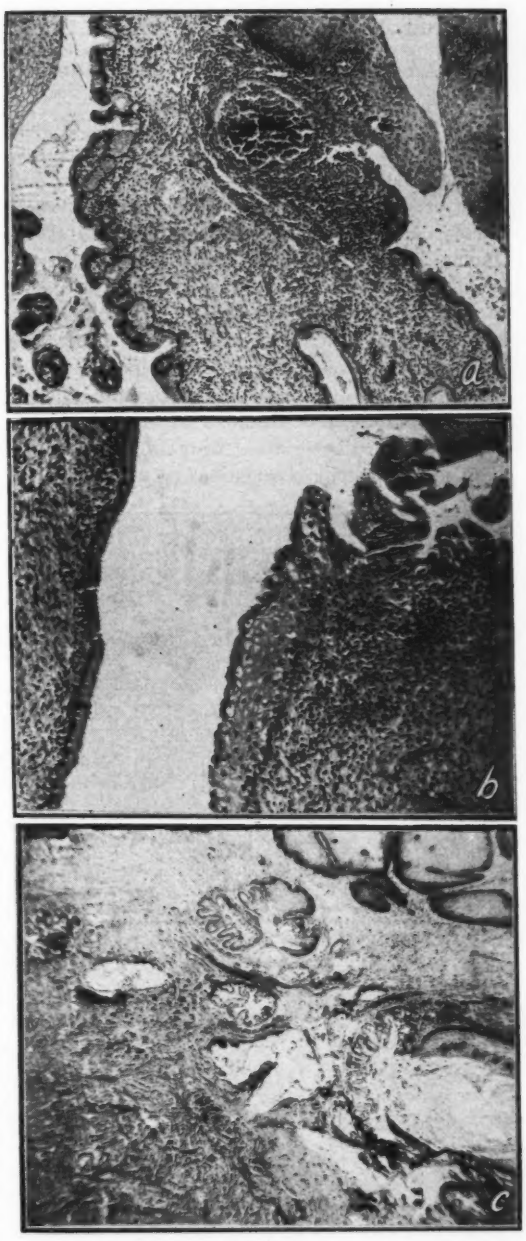

FIG. 1a. Miss S. B., a white woman, had a biopsy of the cervix May 7, 1928. The diagnosis of chronic cervicitis with squamous metaplasia was rendered; twenty-two years later the patient was teaching school. No evidence of carcinoma of the cervix could be seen.

b. Mrs. W. M. M., a white woman, in 1930 had an amputation of the cervix for erosion with the pathologic diagnosis of chronic cervicitis. Squamous metaplasia was present, and twenty years after the biopsy the patient presented no evidence of a neoplastic transformation within the cervix.

c. Mrs. P. A., a Mexican woman, had the diagnosis epidermidization of the cervix upon biopsy in 1934. Since then she has undergone surgery for a cholecystectomy. She has a retrosternal thyroid gland which offers no symptoms. No evidence of carcinoma of the cervix was apparent sixteen years after biopsy.

to indicate that in most series incipient carcinoma does not exceed 2 per cent. A study of the Tumor Clinic records of the John Sealy Hospital revealed 266 cases of carcinoma of the cervix from 1945 through 1950, of which 8 or 3.0 per cent were diagnosed as carcinoma in situ. If the more advanced cases of squamous metaplasia were classified as carcinoma in situ, this figure would be elevated tremendously. Therefore, in comparing the results of our study with many illustrations in the literature, we gained the impression that great discretion should be exercised in differentiating squamous metaplasia and carcinoma in situ. It is believed that in some instances in the literature the diagnosis of incipient carcinoma may have been made with too much enthusiasm to substantiate observations on smears studied by the Papanicolaou method. It would serve no purpose to enter into a detailed controversy with various authors who have used what we term broad or loose interpretation of the diagnosis of incipient carcinoma.

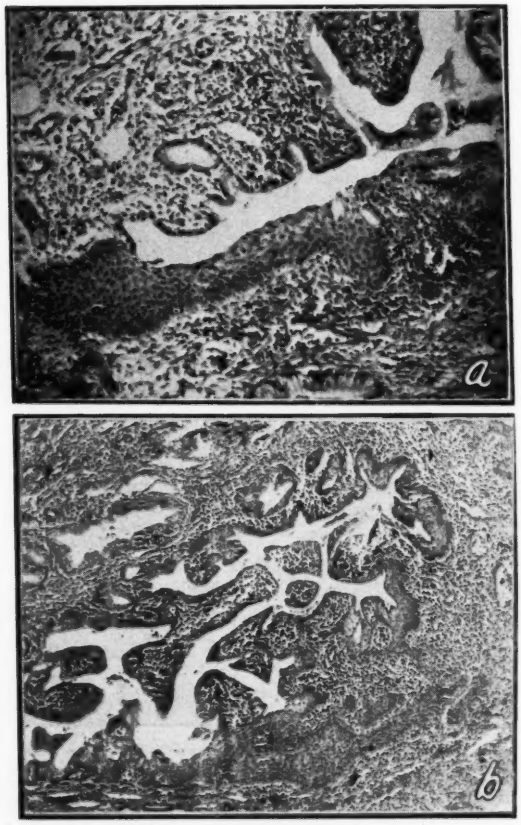

FIG. 2a. Mrs. B. S., a Negro woman, had a subtotal hysterectomy in July, 1944. In October, 1944, the patient exhibited erosion of the cervical stump, and multiple biopsies revealed chronic inflammation with epidermidization. Six years later there was no clinical evidence of a malignant process.

b. Mrs. M. A., a white woman, had the pathologic diagnosis of chronic cervicitis in September, 1945. She had several subsequent biopsies for erosion of the cervix and five years after the first biopsy presented no evidence of carcinoma of the cervix.

Foote and Stewart[2] quoted Isbell[5] and Pund[9] to show that the smear method offers promise in the diagnosis in early carcinoma of the cervix. However, they stated that at present insufficient data are available to determine how important smear diagnosis may be in the detection of carcinoma in situ of the cervix. It is not within the scope of this study to determine the value of smear diagnosis of the cervix but rather to emphasize that the diagnosis of preinvasive carcinoma as determined by cervical biopsy should be based upon strict criteria for the diagnosis of malignancy, such as dyskeratosis, atypical mitoses, nuclear variation, and other characteristic morphologic changes.

SUMMARY

A review of the histologic sections in 2,221 cases of nonmalignant conditions of the cervix in which 326 instances of squamous metaplasia were observed is presented. Of this latter group, 178 cases were considered valid for follow-up study, and 87 patients examined from one to twenty-two years after the original biopsy were studied. No evidence was gained to indicate that any of these patients subsequently developed carcinoma of the cervix.

A plea is made for the use of strict histologic criteria in the diagnosis of incipient carcinoma of the cervix.

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ABSTRACT OF DISCUSSION

DR. A. J. GILL, Dallas: It does not seem that there should be any real difficulty in histologic differentiation between the rather commonplace metaplasia as it involves cervical

glandular epithelium, and the anaplasia which occurs in cervical epithelium (usually of the squamous epithelium near the external os) and which is called carcinoma in situ, noninvasive carcinoma, or some other designation. Differentiation of these two entities should occasion no more difficulty than is experienced in differentiating normal from anaplastic epithelium in any other region.

In uncomplicated metaplasia the glandular epithelium undergoes a change toward a squamous type. The new variety of epithelium, however, does not show any of the histologic features of anaplastic epithelium and is remarkable only because it replaces an epithelium which is normally of a columnar glandular pattern. On the other hand, in the lesion referred to as carcinoma in situ the epithelium changes to show the histologic criteria of malignancy except for actual invasion of the stroma. Carcinoma in situ, which I prefer to call noninvasive carcinoma, does not differ in any way from ordinary carcinoma of the cervical epithelium except in the matter of invasion. Noninvasive carcinomas usually are seen in the squamous epithelium at or near the squamous columnar junction at the external os. Squamous metaplasia of glands also may occur in this region, but I have the impression that this lesion is commoner at a higher level in the endocervical canal.

It does not seem at all likely to me that desquamated cells from an area of metaplasia would resemble malignant tumor cells in a smear study. However, from my observations I know that desquamated noninvasive carcinoma cells may be indistinguishable from fully developed invasive carcinomas.

I have always assumed that metaplasia was a completely benign lesion. There has been only a slight reservation in this view in that metaplasia nearly always is associated with chronic irritation and inflammation and these symptoms always have been suspect as predisposing to malignant change.

This paper by Drs. Townsend and Stembridge tends to confirm the belief that metaplasia is a benign process. I agree that metaplasia and noninvasive carcinoma certainly should not be confused, as there is serious difference in management and prognosis.

DR. JOHN J. ANDUJAR, Fort Worth: Colonel Townsend and Dr. Stembridge are to be commended for their interest in squamous metaplasia of the cervix uteri, a perennial subject of investigation. The advent of the concept of intra-epithelial or in situ carcinoma of the cervix has made the topic even more timely than usual. Whether the pathologist subscribes to the theory that this process is actually squamous metaplasia of glandular epithelium or whether he belongs to that school which considers it to be true epidermidization is relatively immaterial. The real importance to this problem lies in a possible causative relationship between squamous metaplasia (epidermidization) and intra-epithelial cancer.

Many authorities are becoming increasingly convinced that in noninvasive cervical carcinoma the disease is not always progressive. Some even believe that the normal process of desquamation sometimes may cause shedding of the anaplastic cells. This latter fascinating concept would make even more difficult the none-too-easy task of equitably evaluating end results of either squamous metaplasia or intra-epithelial carcinoma. The thesis that there is no demonstrable relationship between these states has been ably and convincingly developed by Colonel Townsend and Dr. Stembridge.

DIAGNOSIS OF KIDNEY TUMORS AND CYSTS

ROBERT E. CONE, M.D., Galveston, Texas

EARLY recognition of malignant disease in any location is important. This is particularly necessary if results are to be improved in the management of renal malignancy; few patients who present the classical triad of loin pain, swelling and hematuria are benefited. There must be continued effort to detect renal lesions before local extension or distant metastasis has occurred.

Strictly speaking, there have been no outstanding improvements in the methods for recognition of kidney tumors within recent years. Although a suspicion often results from correlation of the clinical history and physical examination, the definitive diagnosis for the most part is still dependent upon accurate interpretation of roentgen-ray studies. The radiologist therefore is particularly concerned.

This discussion will emphasize the diagnosis of kidney tumors and especially those of a malignant nature, since the benign growths are of minimal clinical interest. Differentiation of tumors from cysts is mentioned.

Read before the Section on Radiology, Texas Medical Association, Annual Session, Galveston, May 2, 1951.

From the Department of Surgery, Urological Division, University of Texas School of Medicine, Galveston.

I have found it helpful, and from a practical diagnostic standpoint sufficient, to classify tumors into two groups depending on their anatomic location: (1) tumors of the parenchyma and (2) tumors of the pelvis. The tumor of Wilms, although parenchymal, may be considered in a separate category.

PARENCHYMAL TUMORS

I have come to use the term "hypernephroid" to include the tumors formerly spoken of as clear cell, granular cell, papillary, and tubular carcinomas. These hypernephroid growths make up from 85 to 90 per cent of the parenchymal group, the remaining 10 to 15 per cent being rarer types. It is impractical to attempt preoperative histologic differentiation.

The plain or scout film may reveal renal enlargement, irregularity of outline, a suspicious soft tissue mass, curious calcification, or unusual displacement. It is of considerable value, therefore, and should be clear and well studied. The persistence of fetal lobulation now and then produces significant nodular irregularity of the renal outline. Various degrees are seen, necessitating appraisal in the light of other findings. Oblique and lateral exposures with or without

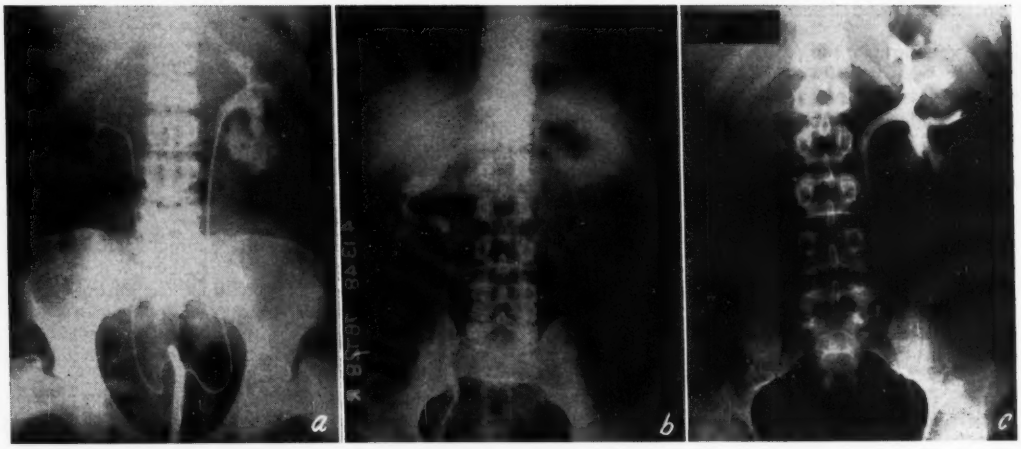

FIG. 1a. Case 1. A preoperative retrograde pyelogram showing multiple benign cysts in the lower pole of the left kidney.
b. Case 2. A retrograde pyelogram revealing multiple simple cysts of the right kidney.
c. Case 3. A retrograde pyelo-ureterogram showing a polycystic kidney.

perirenal oxygen are of definite assistance in more clearly defining renal and associated soft tissue outlines.

Excretory urograms of good quality often reveal the structural changes of tumor or cyst adequately. Visualization of the contralateral kidney with demonstration of function is also brought out in this manner. On the other hand, the clear-cut outline of deformities so frequently necessary for diagnosis requires good retrograde filling through the ureteral catheter.

Time and space do not permit a detailed discussion of pyelographic tumor patterns. Most radiologists are familiar with their bizarre character and textbooks describe them well. The lack of uniformity of structural change is notorious. The interpretation of films leading to a diagnosis may be simple or difficult in direct proportion to the degree of alteration of the normal renal architecture. As a rule the smaller the tumor the less it distorts and the more difficult is its recognition. It has aptly been said that any peculiar pyelogram should be scrutinized with suspicion.

The history, course, and symptomatology of renal tumor also vary within wide limits. Hematuria is the outstanding sign. The importance of determining the "where" and the "why" of blood in the urine cannot be overemphasized.

In Wilms's tumor the plain film usually shows a large soft tissue mass with varying degrees of renal displacement. Pelvic and calyceal distortion are

FIG. 2a. Case 4. A retrograde pyelogram showing a benign cyst in the midportion of the left kidney.
b. Case 5. A retrograde pyelo-ureterogram showing two benign cysts in the upper pole of the left kidney.
c. Case 6. An excretory urogram suggesting polycystic disease.

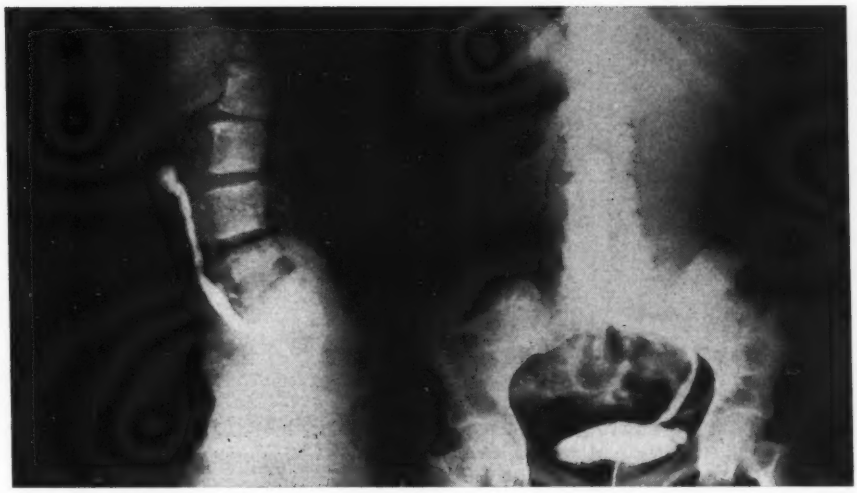

FIG. 3. Case 7. Lateral and antero-posterior retrograde pyelograms of renal carcinoma (papillary adenocarcinoma).

brought out by excretion urograms or by the retrograde pyelogram. Neuroblastomas and other retroperitoneal neoplasms occasionally give rise to differential diagnostic difficulty. Thorough cystoscopic investigation with renal and ureteral roentgen-ray visualization rarely fail to reveal their extra-urinary origin. My experience with renal arteriography thus far has been too limited to justify an opinion as to its value. Because of the technical difficulties surrounding its use, few urologists are enthusiastic. In a few instances I have used it to advantage to differentiate neoplasm and cyst.

TUMORS OF RENAL PELVIS

Growths in the renal pelvis are less frequently encountered than those in the parenchyma and are either true squamous cell carcinomas or papillary tumors histologically and clinically similar to those arising from other urinary tract epithelium. The papillary neoplasms are recognizable as a filling defect in the pelvis if their mass is sufficient. It is in this type of growth that reexamination is so often necessary. The radiologist must be certain to differentiate blood clot, nonopaque calculus, and incomplete filling by the urographic medium. Air pyelograms may be helpful. However, I prefer to employ a diluted urographic medium to bring the structures out more clearly on the film. Efforts to demonstrate tumor cells in the kidney urine by the staining method of Papanicolaou have been disappointing on the whole. False positive reports are disconcerting.

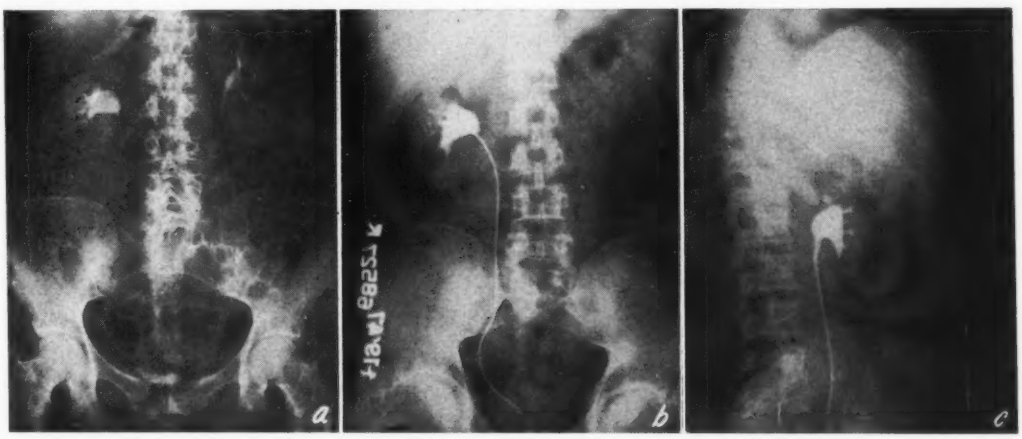

FIG. 4a. Case 8. An excretory urogram of adenocarcinoma of the right kidney.

b. Case 9. A retrograde pyelogram showing carcinoma of the right kidney.

c. Case 9. An oblique retrograde pyelogram of the patient in *b*.

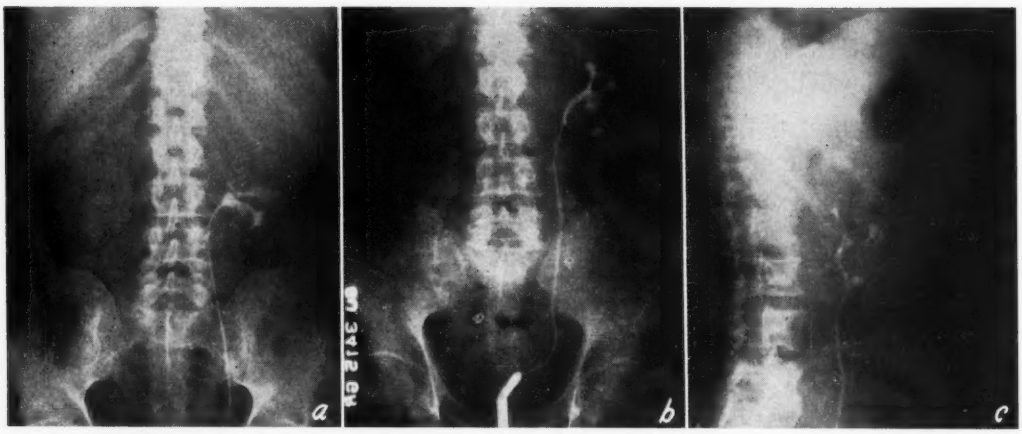

FIG. 5a. Case 10. A retrograde pyelogram of adenocarcinoma of the left kidney.

b. Case 11. A retrograde pyelogram of left renal carcinoma.
c. Case 11. A lateral view of the patient in *b*.

CYSTS

Cysts of the kidney are usually recognizable as a uniformly rounded mass with more or less distortion of the infundibula and calyces, depending upon their size and location and the resulting pressure upon these structures. Now and then calcification is seen in their walls. The radiologist, of course, must be wary in the interpretation of soft tissue shadows in or near the renal outline in instances where there are no recognizable alterations in the pyelogram. Since many solid parenchymal tumors present the same uniformly smooth outline, the differential diagnosis between tumor and cyst cannot always be made preoperatively. Well advanced polycystic disease with bilateral renal enlargement and characteristic pyelographic change is promptly recognized. Now and then, however, differentiation from tumor is a real problem. All degrees of polycystic involvement are seen, and occasionally renal enlargement is for the most part unilateral, with equivocal or minimal changes in the opposite kidney. Under these conditions every genito-urinary surgeon of experience has been led to exploration. Taking into consideration the familial history and the usual picture of hypertension with impairment of renal function, cases presenting major difficulties in differentiation are not seen too often. Instances of bilateral renal tumor, however, have been reported.

OUTLOOK

In general the outlook for the patient with renal malignant disease is still discouraging. Results should and can be improved. Earlier recognition is necessary, but it is too often delayed for various reasons. Now and then the tumor fails to manifest itself by symp-

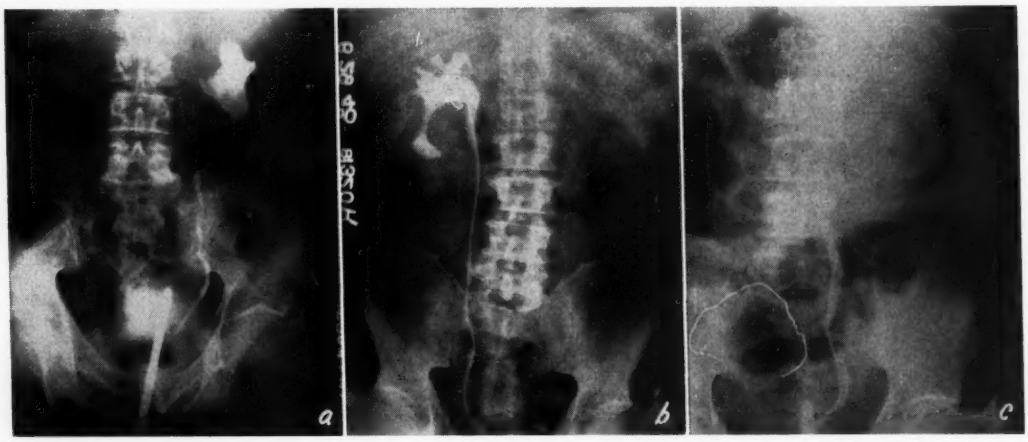

FIG. 6a. Case 12. A retrograde pyelo-ureterogram of left renal carcinoma.

b. Case 13. A retrograde pyelogram of right renal carcinoma.
c. Case 14. A retrograde pyelo-ureterogram in a case of papillary carcinoma of the left renal pelvis.

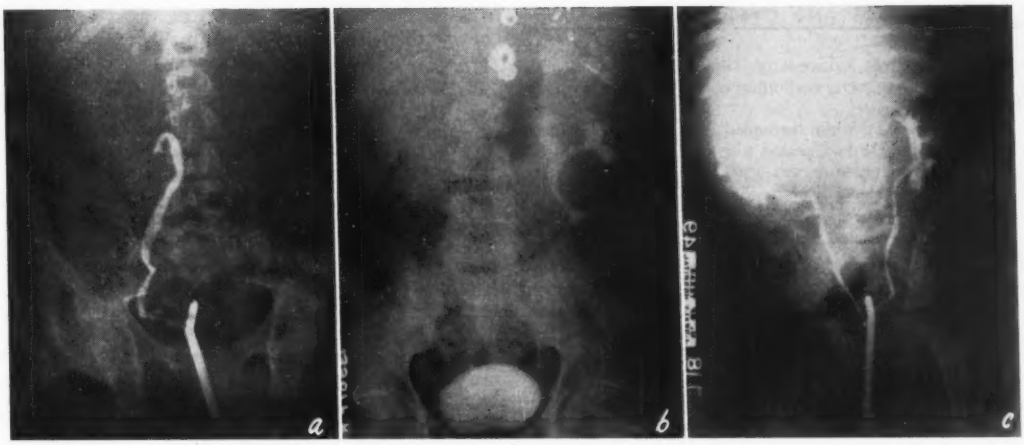

FIG. 7a. Case 15. A retrograde pyelo-ureterogram of right renal carcinoma.
b. Case 16. A retrograde pyelo-ureterogram of left renal carcinoma.
c. Case 17. A retrograde pyelo-ureterogram of Wilms's tumor in a 2 year old boy.

toms of a recognizable renal nature. Too frequently initial or presenting symptoms are those of metastasis because of the well known tendency for early invasion of venous and lymphatic channels. On the other hand, the true significance of hematuria is not yet generally realized. Again there are physicians who are unwilling to explore surgically when in doubt or who delay unnecessarily in exposing the suspicious kidney. Occasionally, other renal lesions such as stone, chronic inflammation, or cystic disease may mask the neoplasm and confuse an examiner. The radiologist must constantly be on guard under these circumstances. The possibility of malignancy in renal cysts must not be lost sight of. Radiologists have come to realize the importance of films of good technical quality and of repeating an examination when in doubt. None should risk an opinion when visualization of structure is inadequate for any reason. Experience is likely to develop a tumor-conscious attitude in all radiologists.

CASE REPORTS

CASE 1.—J. W., a Negro woman aged 43, had total, gross, painless hematuria of nine days' duration. At cystoscopy the left ureteral efflux was bloody. Urine from the right side was clear. There were only a few pus cells in the urine from the left kidney, and no acid-fast bacilli were found. Flank exploration revealed a series of simple benign cysts involving the lower pole. The involved portion of the kidney was resected (fig. 1a).

CASE 2.—E. W., a white man aged 62, had noticed total, gross, painless hematuria at intervals over a two year period. Retrograde pyelograms indicated space occupying lesion or

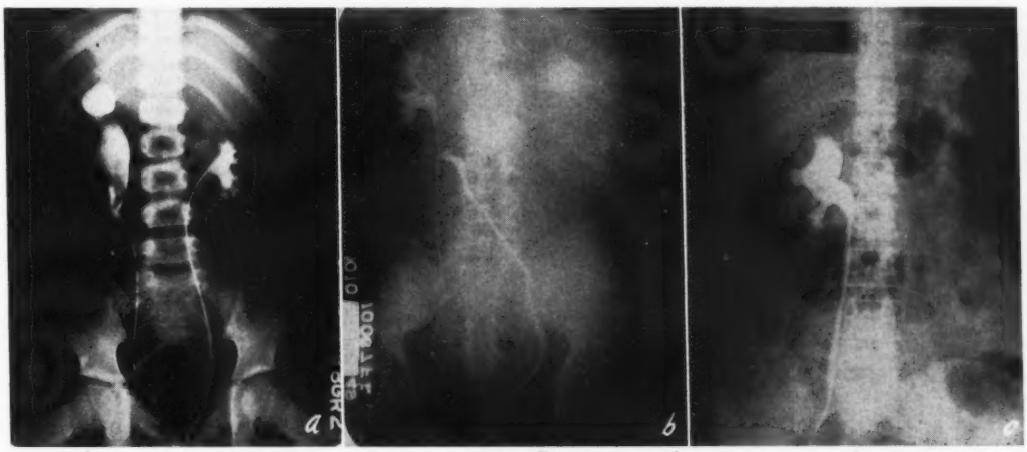

FIG. 8a. Case 18. A retrograde pyelogram of Wilms's tumor in the left kidney.
b. Case 19. A bilateral retrograde pyelogram showing a retroperitoneal liposarcoma on the left.
c. Case 20. A retrograde pyelogram showing a benign cyst in the right kidney.

lesions of the right kidney (fig. 1b). At exploration multiple simple cysts were encountered and nephrectomy was elected.

CASE 3.—L. B., a white man aged 26, complained of pain in the left loin. He had passed bloody urine on two occasions. His blood pressure was 180/120. Retrograde pyelo-ureterograms revealed polycystic kidneys (fig. 1c).

CASE 4.—V. D., a white man aged 50, had an indefinite left loin ache. Excretory urograms were unsatisfactory, and retrograde pyelograms (fig. 2a) resulted in a diagnosis of solid tumor or cyst. The left flank was explored and a large, simple cyst extending from the cortex through to the pelvis in the midportion of the kidney was excised.

CASE 5.—O. S., a white man aged 52, was being studied for what seemed to be recurrent renal infection. Because the appearance of the left kidney suggested tumor of the upper pole, either solid or cystic, left flank exploration was undertaken. Two cysts were found, the larger being 5 cm. and the smaller 2 cm. in diameter. The cyst bearing portion of the kidney was resected (fig. 2b).

CASE 6.—S. P., a white man aged 46, presented a history of intermittent hematuria of several months' duration and left loin pain which had become so severe that large doses of opiates were required for its control. Both kidneys were palpably enlarged, firm, and nodular. An excretory urogram (fig. 2c) supported the diagnosis of polycystic disease. A modified Rovsing operation has relieved his pain and bleeding for two years.

CASE 7.—A. C., a Negro woman aged 55, gave a history of total, gross, painless hematuria of two years' duration. A large, hard, irregular mass was palpable in the right upper quadrant. Adequate pyelographic visualization was not obtained (fig. 3), but right nephrectomy was accomplished without delay. The kidney showed papillary adenocarcinoma with extensive cystic degeneration, necrosis, and hemorrhage.

CASE 8.—H. W., a white woman aged 62, had no symptoms referable to the urinary system. She complained of vague gastrointestinal symptoms which had been present for about a year. There was a mass about 5 cm. in diameter in the right upper quadrant. The excretory urogram (fig. 4a) led to nephrectomy for adenocarcinoma.

CASE 9.—B. B., a white man aged 40, had right flank pain and intermittent gross, painful hematuria for a month preceding admission. Retrograde pyelograms (fig. 4b and c) suggested tumor in the upper pole. A clear cell carcinoma measuring 8 by 9 cm. was found at the time of nephrectomy.

CASE 10.—K. M., a white man aged 56, had suffered left flank pain and intermittent gross hematuria for two years. A mass was easily felt in the left loin. A retrograde pyelogram (fig. 5a) indicated tumor, and at exploration the upper pole of the kidney was occupied and greatly enlarged by a mass filling the upper retroperitoneal space. Nephrectomy was technically difficult because of the size of the tumor but was accomplished successfully. The diagnosis of the pathologist was adenocarcinoma of the kidney, granular cell type.

CASE 11.—A. R., a white man aged 55, was admitted to the hospital because of pain in the left flank radiating into the right upper quadrant. Diarrhea, weight loss, and hematuria had been present for several months. There was tenderness in the left upper quadrant but no definite palpable mass. Biopsy of an enlarged cervical lymph node showed highly anaplastic carcinoma. Left retrograde pyelograms (fig. 5b and c) indicated changes consistent with renal tumor. Exploration revealed an inoperable clear cell carcinoma frozen to the vertebrae, vena cava, and aorta.

CASE 12.—O. V., a white man aged 60, had experienced

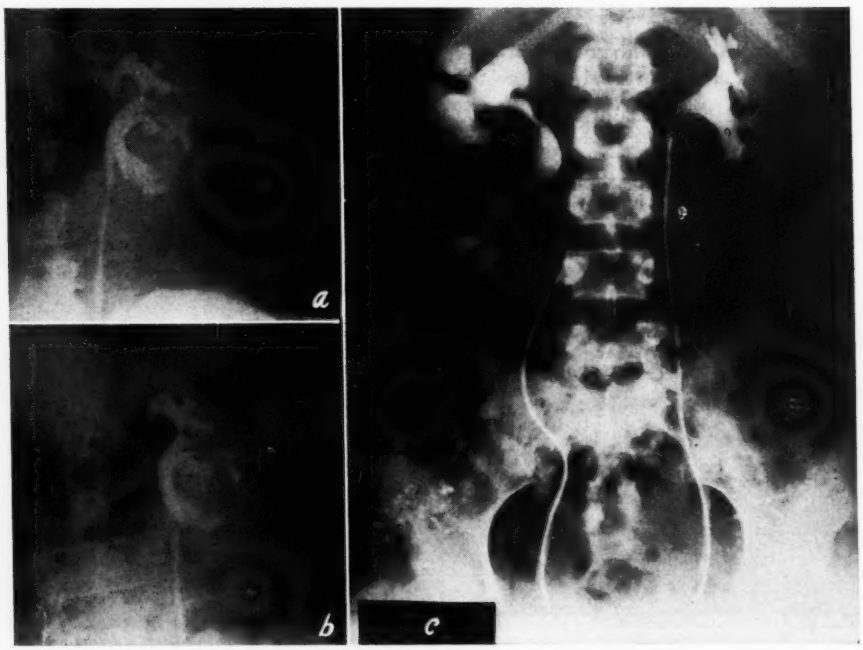

FIG. 9a and b. Case 21. Retrograde pyelo-ureterograms showing a renal cyst on the left.

c. Case 22. A retrograde pyelogram of right renal carcinoma.

sudden severe colicky pain in the right flank radiating to the genitalia two weeks prior to hospitalization. This pain had been accompanied by total, gross hematuria with clots. No masses were felt in the abdomen or flanks. Chest roentgenograms were negative. A retrograde pyelo-ureterogram (fig. 6a) led to surgical removal of the right kidney, the lower pole of which was occupied by a large clear cell carcinoma.

CASE 13.—S. H., a Negro man aged 48, complained of total, gross, painless hematuria. A mass was palpable in the right upper quadrant. A retrograde pyelogram (fig. 6b) indicated right renal tumor, and right nephrectomy was accomplished. The pathologist's diagnosis was adenocarcinoma of the kidney.

CASE 14.—J. P., a Negro man aged 61, had first noticed bloody urine six weeks prior to admission. He also had moderately severe colicky pain in the left flank at times during this period. No abdominal masses were palpable. A chest roentgenogram was negative. Retrograde filling could not be satisfactorily accomplished (fig. 6c) even after two attempts, and the excretion urogram was unsatisfactory. A tentative diagnosis of renal tumor seemed justifiable, and flank exploration revealed the perirenal space to be distended with blood clot. After the clot was evacuated a ruptured hydronephrotic pelvis was exposed and a pedunculated papillary carcinoma revealed.

CASE 15.—E. A., a white man aged 57, noticed intermittent hematuria for two years. He also had a productive cough with pain in the right subscapular region and right arm. Chest roentgenograms revealed metastases, and a right retrograde pyelogram showed carcinoma (fig. 7a). The patient was in extremis and died two months after examination.

CASE 16.—B. B., a Negro man aged 45, had a firm mass as large as a cocoanut in the left upper quadrant. He was certain he had first noticed this lump nine years previously. It was not painful and he had never passed blood in the urine. A retrograde pyelogram (fig. 7b) suggested carcinoma. At nephrectomy a large kidney tumor, grossly well encapsulated, weighing 1,770 Gm. was removed. The diagnosis from microscopic study was clear cell carcinoma.

CASE 17.—D. C., a white boy aged 2 years, presented a mass in the right side which had first been noticed by his mother three weeks prior to examination. Excretory urograms revealed nonfunction of the right kidney. Retrograde pyelo-ureterograms (fig. 7c) led to the diagnosis of Wilms's tumor. At surgery extension of the lesion was so widespread that removal could not be accomplished.

CASE 18.—B. M., a white girl aged 7, had suffered left flank pain and hematuria for seven months before admission. The urine contained many red blood cells but no pus. A chest roentgenogram was negative. No abnormal masses were palpable. A retrograde pyelogram (fig. 8a) indicated left renal tumor. The kidney with a tumor occupying the lower pole and measuring approximately 4 cm. in diameter was removed together with a group of periaortic nodes. Diagnosis by the pathologist was Wilms's tumor. No tumor cells were demonstrable in the removed lymph glands.

CASE 19.—N. C., a white man aged 66, was admitted to the hospital with a diagnosis from the referring physician of chronic lymphatic leukemia which was confirmed by blood and bone marrow studies. He was also suffering from nausea and vomiting with abdominal and back pain. A roentgenogram of the chest was negative. Excretory urograms showed a normal right kidney with no function on the left side. A bilateral retrograde pyelo-ureterogram (fig. 8b) revealed a lesion on the left. At operation a large cystic mass was encountered, filling the retroperitoneal space. This proved to be a liposarcoma. At autopsy one month later there was extensive and widespread metastases.

CASE 20.—W. S., a white woman aged 42, complained of pain in the right upper part of the abdomen. She had no urinary symptoms. A retrograde pyelogram (fig. 8c) gave evidence of a lesion in the right kidney. At surgery a large simple cyst was found. Nephrectomy was elected.

CASE 21.—A. M., a white man aged 62, was being studied because of pyuria. He had no symptoms referable to the kidney, but a deformity observed in a pyelogram and indicating cyst or tumor (fig. 9a and b) led to surgical exposure of the kidney with the finding of large and small benign cysts.

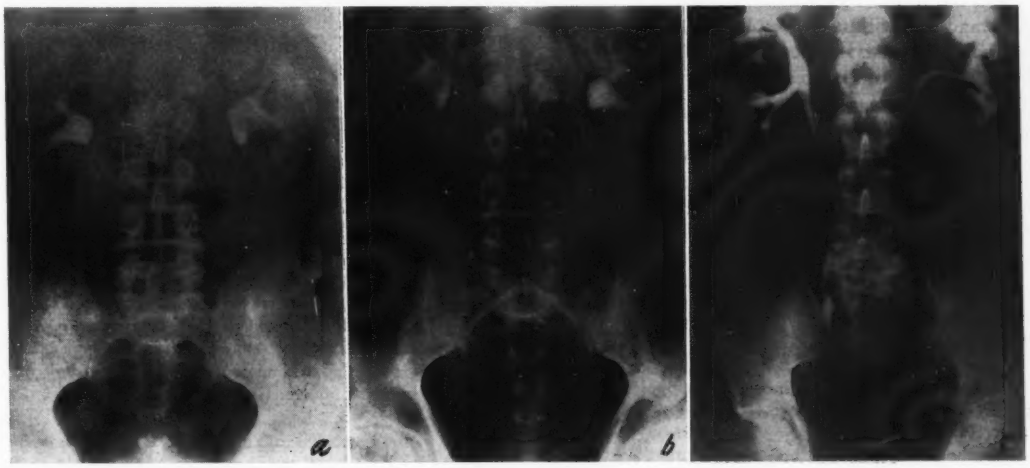

FIG. 10a. Case 23. An excretory urogram of papillary carcinoma of the left kidney pelvis.

b. Case 24. An excretory urogram of papillary carcinoma of the right kidney pelvis.

c. Case 25. A bilateral pyelo-ureterogram showing polycystic disease.

CASE 22.—V. H., a Negro woman aged 28, complained of a right lumbar ache. There had been no hematuria or disturbance of bladder function. There was tenderness but no definitely palpable mass in the loin. A pyelogram was considered diagnostic of right renal tumor (fig. 9c). The patient refused surgery but returned after two years, at which time nephrectomy was done for a large hypernephroid tumor.

CASE 23.—H. W., a white man aged 70, had noticed intermittent painless hematuria for three months. At cystoscopy the urine was clear from the right ureteral orifice and bloody from the left side. Excretion urograms (fig. 10a) on two occasions while the patient was not bleeding showed a filling defect of constant design in the true renal pelvis. Left nephrectomy revealed papillary carcinoma.

CASE 24.—W. V., a white man aged 61, complained of painless hematuria on two occasions, five months prior to admission and a week before examination. At cystoscopy urine from the right ureter contained old blood and the right renal pelvis was occupied by a space-taking defect. This finding was constant on subsequent examination two weeks later, indicating a diagnosis of pelvic papillary tumor. An excretory urogram (fig. 10b) helped to confirm the diagnosis. At operation papillary carcinoma of the renal pelvis was found.

CASE 25.—T. M., a white man aged 49, was being studied for hypertension, moderate in degree, with headaches and failing vision. Excretory urograms were of unsatisfactory quality, and a retrograde pyelo-ureterograms (fig. 10c) revealed a structure characteristic of polycystic disease.

SUMMARY

Early recognition of malignant lesions of the kidneys is imperative if management of such cases is to be improved. The radiologist must be alert to the possibility of renal tumors and be ready to use plain films, oblique and lateral exposures, excretory urograms, retrograde pyelograms, or a combination of these techniques, repeating the examination if necessary, in an effort to identify lesions in the renal area. Physicians should recognize the importance of hematuria and be willing to explore surgically kidneys which are suspected to be cancerous.

Some of the procedures of diagnostic value in tumors of the parenchyma and of the renal pelvis and also of cystic disease are mentioned, and a series of brief case reports illustrate these methods.

706 United States National Bank Building.

ABSTRACT OF DISCUSSION

DR. J. R. RILEY, Corpus Christi: Dr. Cone has presented an excellent paper on the diagnosis of renal carcinoma by clinical and pyelographic means. As he stated, nothing new has been added and excellent descriptions of the typical pyelograms in renal carcinoma appeared in the literature twenty years ago. However, such excellent illustrations as he has shown undoubtedly would have been difficult to produce twenty years ago, and he is to be complimented for demonstrating the value of oblique and laterally projected pyelograms in the search for early lesions of the kidney.

Dr. Cone mentioned the value of perirenal oxygen insufflation to demonstrate kidney contours in questionable cases of enlargement. The procedure is still used to demonstrate or rule out tumors of the adrenal glands, but I think it must be exceedingly rare that this procedure must be resorted to today to demonstrate kidney contours. The combination of limited cone size, a well prepared patient, a modern high speed Bucky diaphragm, a rotating anode tube, and acceptable dark room technique ordinarily will give good visualization of the kidney contours on an intravenous pyelogram, if not on plain films.

One point which Dr. Cone did not dwell upon was the preparation of the patient. Gas shadows obscure not only pyelograms, especially intravenous ones, but bone detail as well. On rare occasions, when the radiologist is examining a questionable pyelogram, a careful scrutiny of the corners of the film may reveal the presence of metastatic bone lesions in the pelvis, lumbar spine, or ribs. Two ounces of castor oil, followed by plain enemas if necessary, appears to be the best preparation available.

Dr. Cone has shown some excellent slides of carcinoma mimicking other disease processes. I can think of a few others that he did not demonstrate. There is a type of hyperplastic renal tuberculosis which either does not or has not eroded into the calyceal system, but rather forms tubercles in the parenchyma which may distort the pyelogram in exactly the same manner as "hypernephroma." Nonopaque calculi lying in the pelvis cannot always be differentiated preoperatively from papillary growths of the renal pelvis. The radiologist must ever be suspicious.

Survival from Atomic Attacks

Six rules for surviving attack by atomic bomb are:

1. Try to get shielded.
2. Drop flat on ground or floor.
3. Bury your face in your arms.
4. Don't rush outside right after bombing.
5. Don't take chances with food or water in open containers.
6. Don't start rumors.

These suggestions are contained in a pamphlet published by the National Security Resources Board entitled "Survival Under Atomic Attack."

Health and happiness may not be all the wealth you want, but it is all you need.—John J. Sutter, M. D., The Ohio State Med. J., June, 1951.

TREATMENT OF TRACHOMA WITH SULFONAMIDES

Successful use of sulfonamides in the treatment of trachoma was reported by Dr. Arthur A. Siniscal, Rolla, Mo., writing in the February 23 issue of *The Journal of the American Medical Association.*

During his study of 3,500 patients from 1941 to 1951, some of the earlier sulfonamides were discarded for various reasons. In addition to treatment with sulfonamides, many of the new antibiotic drugs were administered and proved helpful in combating secondary infections associated with trachoma, but had no effect on trachoma itself, the article states.

Adequate tuberculosis control requires the whole gamut of psychological, social, and economic, as well as medical services.—Joseph W. Mountin, M. D., Pub. Health Reports, February 2, 1951.

CASE REPORTS

STRUMA OVARII

C. B. SANDERS, M.D., Houston, Texas

SMALL masses of thyroid tissue frequently are observed in ovarian teratomas. Tumors of the ovary which really are teratomas composed almost entirely of thyroid tissue are believed to be rare. R. Boettlin reported the first case of thyroid tissue in an ovarian dermoid in 1889. Since his time approximately 180 cases of struma ovarii have appeared in the literature.

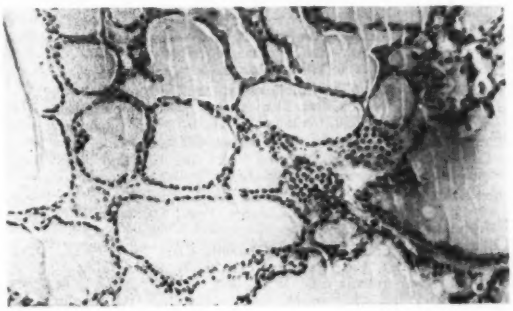

FIG. 1. Section through tumor in case 1, showing thyroid tissue. x 115.

Struma ovarii vary in size from tumors a few centimeters across to ones as large as the head of a human adult. On section the growths may be cystic or solid. The cystic tumors usually are filled with a grayish-yellow or brown mucinous material. The solid tumors have a brown, waxy cut surface. Microscopically, the growths consist of cells which are either cuboidal or flat and which form either masses of cells or acini lined with the cells and filled with pink-staining colloid. Most of them are benign but a few malignant ones have been reported. With some of the growths disturbance in thyroid function has been reported, whereas others have been silent tumors.

Two cases of struma ovarii in which the tumors appeared benign are reported herewith.

CASE REPORTS

CASE 1.—A white woman, aged 65 years, showed no evidence of disturbance of thyroid function. A small mass in the pelvis was removed. The patient had a normal recovery and was well eleven months after operation at the time this paper was written.

Gross Appearance.—The tumor was encapsulated and measured approximately 5 by 4 by 3 cm. The surface was slightly nodular. The cut surface had a honeycomb appearance and the cysts were filled with a dark brown, waxy material.

Microscopic Examination.—The tumor was composed of acini which varied in size and shape and were lined with cuboidal cells. The acini were filled with pink-staining colloid. In areas the cells were grouped into masses without acinus formation. The entire tumor showed the histologic picture of thyroid gland.

CASE 2.—A white woman, aged 40 years, complained of backache. A small tumor in the right side of the pelvis was removed and the patient had an uncomplicated recovery. She was well at the time this report was written.

Gross Appearance.—The tumor was 5 cm. in diameter. The capsule was thick and fibrotic. On section the tumor was seen to be cystic and filled with a mucoid white, yellow, and brown material.

Microscopic Examination.—The tumor had a rather dense fibrous connective tissue stroma in which there were masses of cuboidal cells. In some areas gland spaces were lined with cuboidal cells and filled with pink-staining colloid. No other kind of tissue was found.

1525 Medical Arts Building.

Read before the Section on Clinical Pathology, Texas Medical Association, Annual Session, Galveston, May 2, 1951.

ABSTRACT OF DISCUSSION

DR. STUART A. WALLACE, Houston: Struma ovarii usually are associated with teratomas (dermoids) of the ovary or with pseudomucinous or serous cystomas, according to a recent report. On careful search, evidences of these cystic neoplasms may be seen in some of the so-called pure struma ovarii. Only about 1 of 20 patients with this condition have symptoms of hyperthyroidism.

It would be interesting to follow the uptake of radioactive iodine in cases of struma ovarii. Rare cases in which malignant changes have occurred in the thyroid tissue situated in the ovary have been reported. When this occurs, metastases may take place to the peritoneum and abdominal viscera as well as to bone tissue. At least 1 patient with struma ovarii displaying Meig's syndrome in whom there was a large tumor of one ovary has been reported upon. The small cystic spaces of the teratoma contained sebaceous material and hair, and the main mass, which was solid, was composed of thyroid tissue having fetal adenoma structure.

Sports Activities of Workers

Participation in company-sponsored sports activities by overambitious, overweight, or overage workers should be limited to the physical capacity of the individual, is the thesis of an editorial in the February 16 issue of *The Journal of the American Medical Association.*

"As the Boxing Commission has done in New York, industry can care for its overambitious, overweight and overage 7 p. m. athletes, by determining before the season begins that all applicants for the plant team can meet the rigors of competitive sport," the editorial stated.

NEWS

COMING MEETINGS AND CLINICS

Texas Medical Association, Dallas, May 4-7, 1952. Dr. Allen T. Stewart, Lubbock, Pres.; N. C. Forrester, 700 Guadalupe St., Austin, Acting Executive Secy.

American Medical Association, Chicago, June 9-13, 1952. Dr. John W. Cline, San Francisco, Calif., Pres.; Dr. George F. Lull, 535 North Dearborn St., Chicago 10, Secy.

NATIONAL AND REGIONAL

American Academy of Allergy. Dr. Walter S. Burrage, Milwaukee, Pres.; Mr. James O. Kelley, 208 E. Wisconsin Ave., Milwaukee 2, Executive Secy.

American Academy of Dermatology and Syphilology. Dr. Donald M. Pillsbury, Philadelphia, Pres.; Dr. John E. Rauschkolb, 25 Prospect Ave., N. W., Cleveland 15, Secy.

American Academy of General Practice, Atlantic City, March 24-27, 1952. Dr. Jason P. Sanders, Shreveport, La., Pres.; Mr. Mac F. Cahal, 406 W. 34th St., Kansas City 2, Executive Secy.

American Academy of Neurological Surgery, New York, October, 1952. Dr. Henry G. Schwartz, St. Louis, Pres.; Dr. Theodore B. Rasmussen, 950 E. 59th St., Chicago 37, Secy.

American Academy of Obstetrics and Gynecology, Business Meeting, Cincinnati, March 31-April 4, 1952. Dr. Woodard D. Beacham, New Orleans, Pres.; Dr. Ralph A. Reis, 116 S. Michigan Ave., Chicago 3, Secy.

American Academy of Ophthalmology and Otolaryngology, Chicago, Oct. 12-17, 1952. Dr. J. Milton Robb, Detroit, Pres.; Dr. W. L. Benedict, 100 First Ave. Bldg., Rochester, Minn., Secy.

American Academy of Pediatrics, Chicago, Oct. 20-23, 1952. Dr. W. W. Quillian, Miami, Pres.; Dr. E. H. Christopherson, 636 Church St., Evanston, Ill., Secy.

American Association for Thoracic Surgery, Dallas, May 8-10, 1952. Dr. Frank B. Berry, New York, Pres.; Dr. Paul C. Samson, 2938 McClure St., Oakland 9, Calif., Secy.

American Association of Genito-Urinary Surgeons, Absecon, N. J., June 19-21. Dr. Charles C. Higgins, Cleveland, Pres.; Dr. Norris J. Heckel, 122 S. Michigan Ave., Chicago 3, Secy.

American Association of Obstetricians, Gynecologists and Abdominal Surgeons. Dr. Leroy A. Calkins, Kansas City, Kan., Pres.; Dr. William F. Mengert, 2211 Oak Lawn Ave., Dallas, Secy.

American Cancer Society. Dr. Guy Aud, Louisville, Ky., Pres.; Mr. M. R. Runyon, 47 Beaver St., New York, Exec. Vice-Pres.

American College of Allergists. Dr. John H. Mitchell, Columbus, Ohio, Pres.; Dr. Fred W. Wittich, 423 La Salle Medical Bldg., Minneapolis 2, Secy.

American College of Chest Physicians, Chicago, June 5-8, 1952. Dr. Chevalier L. Jackson, Philadelphia, Pres.; Mr. Murray Kornfeld, 112 E. Chestnut St., Chicago 11, Exec. Secy.

American College of Physicians, Cleveland, April 21-25, 1952; regional meeting, New Orleans, Feb. 15-16, 1952. Dr. Maurice C. Pincoffs. Baltimore, Pres.; Mr. E. R. Loveland, 4200 Pine St., Philadelphia 4, Secy.

American College of Radiology, Chicago. Dr. Robert R. Newell, San Francisco, Pres.; Mr. W. C. Stronach, 20 N. Wacker Drive, Chicago 6, Executive Secy.

American College of Surgeons, New York, Sept. 22-26, 1952. Dr. Alton Ochsner, New Orleans, Pres.; Dr. Michael L. Mason, 40 E. Erie St., Chicago 11, Secy.

American Congress of Physical Medicine, New York, Aug. 25-30, 1952. Dr. Robert L. Bennett, Warm Springs, Ga., Pres.; Dr. Frances Baker, 1 Tilton Ave., San Mateo, Calif., Secy.

American Dermatological Association, Colorado Springs, April 23-26, 1952. Dr. Edward A. Oliver, Chicago, Pres.; Dr. L. A. Brunsting, 102 2nd Ave., S. W., Rochester, Minn., Secy.

American Gastro-Enterological Association, Atlantic City, May 2-3. Dr. T. Grier Miller, Philadelphia, Pres.; Dr. Dwight L. Wilbur, 655 Sutter St., San Francisco, Secy.

American Gynecological Society, Hot Springs, Va., May 12-14, 1952. Dr. Walter T. Dannreuther, New York, Pres.; Dr. John I. Brewer, 104 S. Michigan Ave., Chicago, Secy.

American Hospital Association, Philadelphia, 1952. Dr. Anthony J. J. Rourke, San Francisco, Pres.; Mr. George P. Bugbee, 18 E. Division St., Chicago, Executive Secy.

American Laryngological, Rhinological, and Otological Society, Toronto, May 20-22, 1952. Dr. C. S. Nash, 277 Alexander St., Rochester 7, N. Y., Pres. and Secy.

American Neurological Association, Atlantic City, May 8-10. Dr. S. Bernard Wortis, New York, Pres,; Dr. H. Houston Merritt, 710 W. 168th St., New York 32, Secy.

American Ophthalmological Society, Hot Springs, Va., June 5-7, 1952. Dr. Lawrence T. Post, St. Louis, Pres.; Dr. M. C. Wheeler, 30 W. 59th St., New York 19, Secy.

American Orthopedic Association, London, June 30-July 4, 1952. Dr. Fremont Chandler, Chicago, Pres.; Dr. C. Leslie Mitchell, Henry Ford Hospital, Detroit 2, Secy.

American Pediatric Society, Old Point Comfort, Va., May 7-9. Dr. Hugh McCulloch, Chicago, Pres.; Dr. Aims McGuinness, 1740 Bainbridge St., Philadelphia 46, Secy.

American Proctologic Society, Milwaukee, June 4-7, 1952. Dr. R. A. Scarborough, San Francisco, Pres.; Dr. Stuart T. Ross, 131 Fulton Ave., Hempstead, N. Y., Secy.

American Psychiatric Association, Atlantic City, May 12-16, 1952. Dr. Leo H. Bartemeier, Detroit, Pres.; Dr. R. Finley Gayle, 6300 Three Chopt Rd., Richmond 21, Va., Secy.

American Public Health Association, Cleveland, Oct. 20-24, 1952. Dr. Gaylord W. Anderson, Minneapolis, Pres.; Dr. R. W. Atwater, 1790 Broadway, New York 19, Exec. Secy.

American Society of Anesthesiologists, Philadelphia, Nov. 11-14, 1952. Dr. C. Walter Metz, Denver, Pres.; Dr. J. E. Remlinger, Jr., 188 W. Randolph St., Chicago, Secy.

American Society of Clinical Pathologists, Chicago, Oct. 13-18, 1952. Dr. Israel Davidsohn, Chicago, Pres.; Dr. Clyde G. Culbertson, Indiana University School of Medicine, Indianapolis, Secy.

American Surgical Association, White Sulphur Springs, April 16-18, 1952. Dr. Daniel C. Elkin, Atlanta, Pres.; Dr. Nathan Womack, University of Iowa, Iowa City, Secy.

American Urological Association, Atlantic City, June 23-26, 1952. Dr. Elmer Hess, Erie, Pa., Pres.; Dr. C. H. DeT. Shivers, 121 S. Illinois Ave., Atlantic City, N. J., Secy.

Association of American Physicians and Surgeons, Delegates Interim Meeting, Chicago, April 18-19, 1952. Dr. Denton Kerr, Houston, Pres.; Mr. Harry E. Northam, 360 N. Michigan Ave., Chicago 1, Executive Secy.

International College of Surgeons, U. S. Chapter, Chicago, Sept. 2-5, 1952. Dr. H. W. Meyerding, Rochester, Minn., Pres.; Dr. Arnold S. Jackson, 1516 Lake Shore Drive, Chicago, Secy.

National Tuberculosis Association, Boston, May 26-30, 1952. Dr. Alton S. Pope, Boston, Pres.; Mr. Kemp D. Battle, 1790 Broadway, New York 19, Secy.

Radiological Society of North America, Cincinnati, Dec. 7-12, 1952. Dr. Joseph C. Bell, Louisville, Ky., Pres.; Dr. D. S. Childs, 713 E. Genesee, Syracuse 2, N. Y., Secy.

Southern Medical Association, Miami, Nov. 10-13, 1952. Dr. R. J. Wilkinson, Huntington, W. Va., Pres.; Mr. C. P. Loranz, 1020 Empire Bldg., Birmingham, Ala., Secy.

Southern Psychiatric Association. Dr. R. Burke Suitt, Durham, N. C., Pres.; Dr. Newdigate M. Owensby, Medical Arts Bldg., Atlanta, Ga., Secy.

Southern Surgical Association, Hollywood, Fla., Dec. 9-11, 1952. Dr. I. Mims Gage, New Orleans, Pres.; Dr. John C. Burch, 2112 West End Ave.. Nashville, Tenn., Secy.

Southwest Allergy Forum, Kansas City, Mo., 1953. Dr. Orval R. Withers, Kansas City, Mo., Pres.; Dr. James Holman, Medical Arts Bldg., Dallas, Secy.

Southwest Regional Cancer Conference, Fort Worth, Sept. 25, 1952. Secy., 209 Medical Arts Bldg., Fort Worth.

Southwestern Medical Association, Albuquerque, N. Mex., Oct. 30-Nov. 1, 1952. Dr. James Walsh, Douglas, Ariz., Pres.; Dr. W. W. Schuessler, 1415 First National Bank Bldg., El Paso, Secy.

Southwestern Surgical Congress, Dallas, Oct. 20-22, 1952. Dr. Leo J. Starry, Oklahoma City, Pres.; Dr. C. R. Rountree, 1227 Classen, Oklahoma City 3, Secy.

Tri-State Medical Assembly. Dr. W. S. Terry, Jefferson, Pres.; Dr. Albert M. Hand, 619 Main, Texarkana, Secy.

United States-Mexico Border Public Health Association, Monterrey, March 17-19, 1952. Dr. Wilton L. Halverson, San Francisco, Pres.; Dr. J. Ellington, 314 U. S. Court House, El Paso, Secy.

STATE

Texas Academy of General Practice, San Antonio, Sept. 15-16, 1952. Dr. Van D. Goodall, Clifton, Pres.; Dr. B. H. Bayer, 104 E. Twentieth St., Houston, Secy.

Texas Academy of Internal Medicine, Dallas, Dec. 6-7, 1952. Dr. W. C. Dine, Amarillo, Pres.; Dr. John S. Chapman, 3810 Swiss Ave., Dallas, Secy. Meetings restricted to members.

Texas Air-Medics Association, Dallas, May 4-5, 1952. Dr. W. M. Pratt, Houston, Pres.; Dr. J. S. Minnett, 2512 Welborn, Dallas, Secy.

Texas Association of Blood Banks, Galveston, Dec. 5-6, 1952. Dr. E. E. Muirhead, Dallas, Pres.; Miss Marjorie Saunders, 3500 Gaston Avenue, Dallas, Secy.

Texas Association of Obstetricians and Gynecologists, Fort Worth, 1953. Dr. D. D. Wall, San Angelo, Pres.; Dr. Carey Hiett, 815 Fifth Ave., Fort Worth, Secy.

Texas Chapter, American College of Chest Physicians, Dallas, May 5. 1952. Dr. J. E. Dailey, Houston, Pres.; Dr. Howard Smith, 3215 Exposition Blvd., Austin, Secy.

Texas Club of Internists. Dr. Ghent Graves. Houston, Pres.; Dr. Hatch W. Cummings, Jr., 203 Hermann Professional Bldg., Houston, Secy.

Texas Dermatological Society, Dallas, May 5, 1952. Dr. W. H. Connor, Houston, Pres.; Dr. C. H. McCuistion, Capital National Bank Bldg., Austin, Secy.

Texas Diabetes Association, Dallas, May 4, 1952. Dr. D. W. Carter, Jr., Dallas, Pres.; Dr. Ivan Mayfield, 1312 Main, Lubbock, Secy.

Texas Division, American Cancer Society. Mr. Frank C. Smith, Houston, Pres.; Mr. J. Louis Neff, 1609 Colorado, Austin, Executive Director.

Texas Heart Association, Dallas, May 5, 1952. Dr. Paul V. Ledbetter, Houston, Pres.; Miss Roberta Miller, 411 Reserve Loan Life Bldg., Dallas, Executive Secy.

Texas Hospital Association, Houston, May 20-22, 1952. Mrs. Ruby B. Gilbert, Temple, Pres.; Mrs. Ruth Barnhart, 2210 Main St., Dallas, Secy.

Texas Neuropsychiatric Association, Dallas, May 5, 1952. Dr. David Wade, Austin, Pres.; Dr. James Blair, 1708 Nix Professional Bldg., San Antonio, Secy.

Texas Orthopedic Association, Dallas, May 5, 1952. Dr. G. W. N. Eggers, Galveston, Pres.; Dr. Margaret Watkins, 3629 Fairmount St., Dallas, Secy.

Texas Pediatric Society, Dallas, Oct. 17-18, 1952. Dr. C. S. E. Touzel, Fort Worth, Pres.; Dr. M. C. Carlisle, 1410 Austin Ave., Waco, Secy

Texas Public Health Association. Mr. Barnie A. Young, Austin, Pres.; Mr. Earle W. Sudderth, Dallas County Health Department, Court House, Dallas, Executive Secy.

Texas Radiological Society, San Antonio, Jan. 23-24, 1953. Dr. Robert D. Moreton, Fort Worth, Pres.; Dr. R. P. O'Bannon, 650 Fifth Ave., Fort Worth, Secy.

Texas Railway and Traumatic Surgical Association, Dallas, May 5, 1952. Dr. A. W. Hartman, San Antonio, Pres.

Texas Rheumatism Association, Dallas, December, 1952. Dr. Robert H. Mitchell, Fort Worth, Pres.; Dr. Charles H. Cornwell, Marlin, Secy.

Texas Society for Mental Health, Fort Worth, March 6-7, 1952. Dr. Warren T. Brown, Houston, Pres.; Mrs. Elizabeth F. Gardner, 2504 Jarratt Ave., Austin 21, Executive Secy.

Texas Society of Anesthesiologists, Dallas, May, 1952. Dr. L. F. Schuhmacher, Jr., Houston, Pres.; Dr. Werner Hoeflich, 2301 Reba, Houston, Secy.

Texas Society of Gastroenterologists and Proctologists, Dallas, May 5, 1952. Dr. Dolph L. Curb, Houston, Pres.; Dr. C. P. Hardwicke, 120 W. Seventh St., Austin.

Texas Society of Ophthalmology and Otolaryngology, Houston, December, 1952. Dr. J. Charles Dickson, Houston, Pres.; Dr. Lyle Hooker, 627 Esperson Bldg., Houston, Secy.

Texas Society of Pathologists, Dallas, May 6, 1952. Dr. Charles T. Ashworth, Fort Worth, Pres.; Dr. Lloyd R. Hershberger, Shannon Memorial Hospital, San Angelo, Secy.

Texas Surgical Society, Houston, April 7-8, 1952. Dr. Robert M. Moore, Galveston, Pres.; Dr. Albert W. Hartman, 414 Navarro St., San Antonio 5, Secy.

Texas Tuberculosis Association, San Antonio, April 18-19, 1952. Dr. David McCullough, Kerrville, Pres.; Miss Pansy Nichols, 208 E. Ninth, Austin, Executive Secy.

Texas Urological Society. Dr. William H. Heck, San Antonio, Pres.; Dr. J. D. Mitchell, 1414 Medical Arts Bldg., Dallas, Secy.

DISTRICT

First District Society, February, 1953. Dr. Jim Camp, Pecos, Pres.; Dr. H. D. Garrett, First National Bldg., El Paso, Secy.

Second District Society, Odessa, March 11, 1952. Dr. A. H. Daniell, Brownfield, Pres.; Dr. C. B. Knox. Jr., Seagraves, Secy.

Third District Society, Plainview, April 1-2, 1952. Dr. Pauline Miller, Lubbock, Pres.; Dr. James T. Hall, 1626 Fifteenth Street, Lubbock, Secy.

Fourth District Society, San Angelo, November, 1952. Dr. B. A. Hallum, Brady, Pres.; Dr. Lloyd R. Hershberger, San Angelo, Secy.

Fifth and Sixth Districts Society, Corpus Christi, July 11-12, 1952. Dr. G. Turner Moller, Corpus Christi, Pres.; Dr. Y. C. Smith, 1813 S. Alameda Blvd., Corpus Christi, Secy.

Seventh District Society. Dr. George W. Tipton, Austin, Pres.; Dr. D. B. Faubion, 1403 C Guadalupe, Austin, Secy.

Eighth District Medical Society. Dr. Leonard Johnson, El Campo, Pres.; Dr. Robert Casey, Texas City, Secy.

Ninth District Society, Baytown, 1953. Dr. Otto F. Schoenvogel, Brenham, Pres.; Dr. Lyman C. Blair, 1212 Rothwell, Houston, Secy.

Tenth District Medical Society. Dr. Peyton C. Clements, Lufkin, Pres.; Dr. Edmund D. Jones, 2575 South, Beaumont, Secy.

Eleventh District Society, Athens. Dr. Griff T. Ross, Mount Enterprise, Pres.; Dr. Marlin T. Braswell, Henderson, Secy.

Twelfth District Society. Dr. J. B. Brown, Temple, Pres.; Dr. Neil D. Buie, Marlin, Secy.

Thirteenth District Society, Abilene, May 28, 1952. Dr. W. B. Adamson, Abilene, Pres.; Dr. Robert D. Moreton, 815 Medical Arts Bldg., Fort Worth, Secy.

Fourteenth District Society, Greenville, June, 1952. Dr. N. L. Barker, Paris. Pres.; Dr. L. W. Johnston, 502 W. College St., Terrell, Secy.

Fifteenth District Society. Dr. C. B. Reed, Clarksville, Pres.; Dr. William E. Jones, 619 Main, Texarkana.

CLINICS

Dallas Southern Clinical Society, Dallas, March 17-20, 1952. Miss Betty Elmer, Medical Arts Bldg., Dallas 1, Executive Secy.

Central Texas Spring Clinic. Waco, April 2, 1952. Dr. Walter B. King, 2320 Columbus Ave., Waco, Secy.

International Medical Assembly of Southwest Texas, San Antonio, January, 1953. Dr. John M. Smith, Jr., 205 Camden St., San Antonio, Secy.

New Orleans Graduate Medical Assembly, March 2-5, 1953. Dr. Woodard D. Beacham, Room 103, 1430 Tulane Ave., New Orleans 12, Secy.

North Texas-Southern Oklahoma Fall Clinical Conference, Wichita Falls, Sept. 17, 1952. Dr. E. Aubrey Cox, Hamilton Bldg., Wichita Falls, Chairman.

Oklahoma City Clinical Society Conference, Oklahoma City. Mrs. Muriel R. Waller, 512 Medical Arts Bldg., Oklahoma City 2, Executive Secy.

Postgraduate Medical Assembly of South Texas, Houston, July 21-23, 1952. Dr. C. A. Dwyer, Secy., 229 Medical Arts Bldg., Houston.

Wichita County Medical Society Cancer Clinic, Wichita Falls, May 15, 1952.

PERSONALS

Dr. W. E. Vandevere, El Paso, spoke on "Modern Methods of Cataract Surgery" at the January meeting of the Pan-American Ophthalmological Society in Mexico City, states the El Paso *Times.*

Dr. Robert T. Patterson, Houston, was appointed to the Selective Service Appeal Board for the Southern Federal Judicial District in Houston, announces the Houston *Post.*

Dr. Helen Clark, Paris, was awarded a postdoctoral research fellowship by the life insurance medical research fund to carry on research under the guidance of Dr. E. E. Muirhead at Southwestern Medical School, Dallas.

Dr. Paul V. Ledbetter, Houston, president of the Texas Heart Association, has been named to the board of directors of the American Heart Association, according to the Houston *Chronicle.*

Dr. John Chapman, Dallas, was named to the school board of the Highland Park School District to fill the unexpired term of the late *Dr. J. Shirley Hodges,* reports the Dallas Park Cities *News.*

Dr. David W. Carter, Jr., Dallas, was named to fill an unexpired term on the State Board of Education, reports the Dallas *Times-Herald.*

Dr. J. M. Travis, Jacksonville, was honored March 22 at a dinner in appreciation of his civic work and contributions since the beginning of his medical practice in 1913, reports

the Fort Worth *Star-Telegram*. Principal speaker at the dinner was *Dr. William M. Gambrell*, Austin.

Dr. James C. Price, Gonzales, heads the Gonzales Rotary Club as president, according to the Austin *American-Statesman*.

Dr. Lloyd M. Southwick, Edinburg, was chosen president of the Upper Valley Flying Club at a meeting in January, states the Hidalgo County *News*.

Dr. Victor Keidel, Fredericksburg, was honored at a party on his seventieth birthday January 9, informs the *Radio Post*.

Recent births reported by the *Alumni Bulletin* of the University of Texas Medical Branch include sons to *Drs. W. C. and Eugenia Tate Gauntt*, Austin; and to *Dr. Grace Jameson* and Henry Jameson, D.V.M., Galveston. A daughter was born to *Dr. and Mrs. Harold Roosth*, Tyler.

Texas Association of Obstetricians and Gynecologists

The twenty-third annual meeting of the Texas Association of Obstetricians and Gynecologists was held February 8 and 9 in Austin. Dr. Roger B. Scott, associate professor of obstetrics and gynecology at Western Reserve University School of Medicine and gynecologist-in-chief of University Hospitals of Cleveland, Ohio, was guest speaker.

Approximately 175 physicians attended the meeting. Officers named at this time were Dr. George F. Adam, Houston, president; Dr. D. D. Wall, San Angelo, president-elect; Dr. Landon C. Arnim, Corpus Christi, vice-president; and Dr. Carey Hiett, Fort Worth, secretary-treasurer.

The scientific program was as follows:

FEBRUARY 8

Some Clinical and Experimental Aspects of Endometriosis—Dr. Scott.
Routine Use of Postpartum Pessaries—Dr. Donald M. Paton, Houston.
The G. R. Hannah Lectureship: Vaginal Delivery Following Cesarean Section—Dr. J. R. Harris, Jr., Lubbock.
Face Presentation, Review of Ninety-Four Cases—Dr. Tom Reinke, Houston.
Management of Eclampsia in Hospital Practice—Dr. Harold R. Thomas, Dallas.
Dysostosis Cleidocranialis: Report of Case—Dr. W. L. Parker, Wichita Falls.
Simplified Roentgen-Ray Pelvimetry—Dr. John W. Simpson, Fort Sam Houston.
Allergy, Factor in Abortions—Dr. James H. Herrod, Austin.

FEBRUARY 9

(Presented by the Department of Obstetrics and Gynecology, Brackenridge Hospital.)

Carcinoma-in-Situ—Dr. Phillip T. Flynn, Austin.
J. F. Y. Payne—Dr. Robert A. Johnston, Houston.
J. F. Y. Payne Address: The Symptomatic and Elusive Endometrial Polyp—Dr. Scott.
Masculinizing Tumors of the Ovary—Dr. E. K. Blewett, Austin.
Ureteral Injuries in Pelvic Surgery—Dr. R. G. Carter.

The next annual meeting will be held in Fort Worth, the date to be set later.

James P. Hart, chancellor of the University of Texas, was guest speaker at the dinner held Friday evening preceded by a cocktail party.

Rocky Mountain Cancer Conference

The sixth annual Rocky Mountain Cancer Conference sponsored by the Colorado State Medical Society and the Colorado division of the American Cancer Society will be held July 9 and 10 in Denver.

The two day meeting annually features eight speakers on new developments in diagnosis and treatment of malignancies. Speakers this year include Drs. Lyon H. Appleby, Vancouver, B. C., surgeon; Cornelius P. Rhoads, New York, pathologist; Harold W. Dargeon, New York, pediatrician; Lauren V. Ackerman, St. Louis, pathologist; Simeon T. Cantril, Seattle, radiologist; Edward P. Cawley, Charlottesville, Va., dermatologist; and C. Langdon Parsons, Boston, gynecologist. The eighth speaker, an internist, will be announced later.

In addition to the scientific program, the conference will include a banquet and entertainment. No registration fee is charged. Approximately 700 physicians are expected to attend.

SOUTHWEST ALLERGY FORUM

Dr. Orval R. Withers, Kansas City, was elected president of the Southwest Allergy Forum at the annual meeting held March 2-4 in Dallas. Dr. James Holman, Dallas, is secretary-treasurer.

The program was as follows:

MARCH 3

Some Respiratory Changes Incident to Pulmonary Blood Volume Alterations—Dr. Ben Wilson, Dallas.
Effect of Adrenalin Histamine, and Aminophyllin on Pulmonary Blood Volume and Respiratory Effort—Dr. Wilson.
Discussion—Dr. Andres Goth, Dallas.
Probable Role of Airborne Soil Bacteria in Perennial Hay Fever and Asthma—Dr. L. O. Dutton, El Paso.
Discussion—Dr. Homer Prince, Houston.
Panel Discussion: Atopic and Contact Eczema—Drs. Bedford Shelmire, Dallas, moderator; A. Rostenberg, Jr., Chicago; Clarence Livingood, Galveston; Gilbert Forbes, Dallas; and A. Schoch, Dallas.
Management of the Bacterial Infection Component of Eczematous Eruptions—Dr. Livingood.
Discussion—Dr. Frederick Speer, Kansas City.
Mechanism of Eczematous Sensitization—Dr. Rostenberg.
Studies on Histamine Liberation and the Mode of Action of Cortisone—Dr. Goth.
Discussion—Dr. E. E. Muirhead, Dallas.
Some Clinical Aspects of Respiratory Physiology—Dr. John L. Guerrant, Charlottesville, Va.
Discussion—Dr. Maple Sevier, Houston.
Classification and Pathogenesis of Sensitization Mechanisms with Emphasis on Allergic Dermatoses—Dr. Rostenberg.

MARCH 4

Atopic Dermatitis—Dr. Rostenberg.
Allergy of the Nervous System—Dr. Hal Davison, Atlanta, Ga.
Discussion—Dr. Edna S. Pennington, Nashville.
Gastrointestinal Allergy as Observed by the Allergist—Dr. George Piness, Los Angeles.
Discussion—Dr. Richard Etter, Houston.
The Mist-02-Gen: New Method of Continuous Oxygen-Aerosol Therapy—Lt. Robert Denton, Sheppard Air Force Base.
Incidence of Tussigenic Syncope in Bronchial Asthma—Dr. Vincent J. Derbes, New Orleans.
Discussion—Dr. DeWitt Hotchkiss, Jr., Houston.
Review of 500 Cases of Bronchial Asthma in World War II, Veterans Now Residing in Texas—Dr. Bernard Fein, San Antonio.
Discussion—Dr. A. H. Braden, Houston.
Cutaneous Manifestations of Emotional Reactions—Dr. James K. Peden, Dallas.
Drug Eruptions—Dr. Rostenberg.
Pulmonary Function Studies in Asthma—Dr. W. F. Mil, McKinney.
Discussion—Dr. Alan Cazort, Little Rock.
Mesquite Allergy—F. W. Bieberdorf, Ph. D., and Dr. Boen Swinney, San Antonio.
Discussion—Drs. H. E. Whigham, McAllen, and J. W. H. Rouse, San Antonio.

A dinner in honor of Dr. J. H. Black, Dallas, member of the directors of the Southwest Allergy Forum, was held March 3 with Dr. George Piness, Los Angeles, as guest speaker.

CONFERENCE IN SURGERY OF GASTROINTESTINAL TRACT

A four-day postgraduate conference in surgery of the gastrointestinal tract was offered March 24-27 by the Temple division of the University of Texas Postgraduate School of Medicine.

Guest speakers were Drs. Robert M. Moore, Galveston; John V. Goode, Dallas; George W. Waldron, Houston; and A. W. Hartman, Jr., San Antonio. The program included

papers on the esophagus, neoplasia of the stomach, peptic ulcer, lesions of the small bowel, neoplasia of the colon, intestinal obstruction, gastrointestinal lesions in acute abdominal conditions, and lesions of the rectum and anus.

Members of the staff of the Scott and White Clinic who conducted the conference included Drs. H. B. Anderson, C. A. Stevenson, Charles Phillips, C. H. Gillespie, G. V. Brindley, Jr., A. C. Scott, Jr., W. N. Powell, E. E. Seedorf, A. C. Broders, R. R. White, G. V. Brindley, A. C. Broders, Jr., J. H. Greenwood, A. W. Sommer, M. W. Sherwood, R. R. Curtis, Terrell Speed, P. M. Ramey, J. F. McKenney, Jr., John R. Hall, W. N. Powell, O. B. Gober, R. G. Greenlee, J. S. Rice, Jr., and K. S. Tabb.

CHEST EXAMINATION URGED FOR CANCER DETECTION

Chest roentgenograms every six to twelve months for men over 40 years of age, especially heavy smokers, as a means of detecting cancer of the lung, was urged by four physicians writing in the March 1 issue of *The Journal of the American Medical Association.*

The physicians stated that incidence of lung cancer is increasing more rapidly than any other type of cancer with fatalities from lung cancer in the United States increasing 144 per cent during a ten year period while deaths from all types of cancer increased only 31 per cent in the same period.

The four physicians, including a Texan, Dr. Michael E. DeBakey of Baylor University College of Medicine, Houston, said they believe a causal relationship exists between the increased incidence of lung cancer and increased use of cigarettes. Also they express the opinion that lung cancer is more prevalent in men than women and that one of the most valuable methods of detection is roentgen ray because it gives a high percentage of abnormal findings.

SOUTHWESTERN MEDICAL SCHOOL

Dr. E. E. Muirhead, professor of pathology at Southwestern Medical School of the University of Texas, Dallas, recently presented a series of lectures at the Veterans Administration Hospitals in Tucson and Whipple, Ariz.

Dr. Andres Goth, professor of pharmacology, will conduct a two year tissue metabolic study in experimental hypersensitivity made possible by a grant of $13,296 from the United States Public Health Service.

Construction of a $3,250,000 building at the medical school is scheduled to begin within the next few months. Announcement of plans for the new building for which the legislature has appropriated funds was announced by Dudley K. Woodward, Jr., chairman of the Board of Regents, at a meeting of Texas ex-students in Dallas on Texas Independence Day, reports the *Daily Texan.*

UNIVERSITY OF TEXAS MEDICAL BRANCH

Recent lecturers at the University of Texas Medical Branch were Dr. Stuart Mudd, professor of microbiology of the University of Pennsylvania; Dr. Paul Weiss, professor of zoology and director of the Division of Biology of the University of Chicago; and Professor Ashley Montagu of the Anthropology Department of Rutgers University.

The library of the late Dr. Malcolm Kelley McCullough, Dallas, has been donated to the University of Texas Medical Branch Library.

A southwest regional conference on pre-professional health education will be held May 15-17 at the University of Texas Medical Branch under the auspices of the Texas Academy of Medicine, the National Honorary Pre-Medical Society, and the University of Texas Medical Branch. Representatives from national organizations in the health fields will participate.

NURSING PLANS TO REORGANIZE

A reorganization plan designed to coordinate national nursing efforts is underway and will be completed by fall of 1952. Under this plan there will be only two organizations concerned with professional nursing instead of the six organizations existing now. These two will be the American Nurses Association and the National League for Nursing.

Under the new structure the American Nurses' Association will promote the professional, general, and economic welfare of professional nurses and assist them in becoming the best possible practitioners as individuals and members of a profession. The new organization, National League for Nursing, will replace and carry forward the major programs of four of the present groups: the American Association of Industrial Nurses, the Association of Collegiate Schools of Nursing, the National League of Nursing Education, and the National Organization for Public Health Nursing. Both the American Nurses Association and the National League for Nursing will have state and local or district units.

New Health Education Radio Series

A new series of health education radio shows entitled "Medicine, U.S.A.," is being carried over the National Broadcasting Company network on six successive Saturdays. Sponsored by the American Medical Association and county medical societies in cooperation with N.B.C., the program began March 29 and is broadcast from New York at 7:30 p. m., Eastern Standard Time.

Texas Hospital Association to Convene

Dr. T. C. Terrell, Fort Worth, President-Elect of the Texas Medical Association, will be one of the speakers at the annual meeting of the Texas Hospital Association, to be held May 20-22 at the Shamrock Hotel in Houston. John Ben Sheppard, Austin, former Secretary of the State of Texas; Dr. Anthony J. J. Rourke, president of the American Hospital Association; Msgr. Charles A. Towell, president-elect of the American Catholic Hospital Association; Dr. George W. Jackson, Austin, medical director of the Board of Texas Hospitals and Special Schools; William Stronach, Chicago, executive secretary of the American College of Radiology; E. I. Erickson, Chicago, president of the American College of Hospital Administrators; and George Bugbee, Chicago, executive director of the American Hospital Association, also will speak. Several Texans associated with hospitals will contribute to the program.

Medical Meeting in Mexico

Physicians from El Paso have been invited to attend the sixth biannual meeting of the "Asociacion de Medicos de Provincia" to be held in Juaraz, April 18-21. El Paso physicians are considered as active members of the group.

Overhead in Prepayment Medical Plans

Medical society sponsored prepayment plans averaged 15 per cent of income for their overhead five years ago. Today the average is about 11 per cent with Blue Cross overhead being only 8 per cent of income.—Medical Economics, Feb., 1952.

Plastic Eyeglass Frames Inflammable

Wearers of plastic eyeglass frames should be warned that they are often highly inflammable. Thirty samples tested by Drs. Paul Van Portfliet and F. Bruce Fralick of the University of Michigan, Ann Arbor, could be ignited, and 26 were considered dangerous, the *American Journal of Ophthalmology* reports.

LIBRARY SECTION

PACKAGE SERVICE

The package library consists of collections of reprints and other periodical material on various subjects, prepared for lending to members of the Association. Request for packages should be addressed "Library, Texas Medical Association, 700 Guadalupe Street, Austin, Texas." Twenty-five cents in stamps should be enclosed with the request to cover postage and part of the expense of collecting the material. Packages are allowed to remain in the hands of the borrower for 14 days.

ACCESSIONS

The following additions were made to the Library during March:

Reprints received, 919.
Journals received, 322.
Books received, 16.

Collected Reprints, 1949-1951. Wilmer Obhthalmological Institute, Johns Hopkins University and Hospital, Johns Hopkins University, Baltimore.

1951 Yearbook of Urology, Scott, editor; *1951 Yearbook of Orthopedics and Traumatic Surgery*. Compere, editor, Yearbook Publishers, Inc., Chicago.

Signs and Symptoms, Applied Pathologic Physiology and Clinical Interpretation, ed. 2, MacBryde, J. B. Lippincott Company, Philadelphia.

Diagnostic and Experimental Methods in Tuberculosis. Willis and Cummings; *Refraction and Motility*. Lancaster; *Neurosurgery, An Historical Sketch*. Horrax; *The Human Blood Groups (Utilized in Disputed Paternity Cases and Criminal Proceedings)*. Andresen; *Infertility in Men*. Hotchkiss; *Early Care of the Seriously Wounded Man*. Beecher, Charles C. Thomas, Publisher, Springfield, Ill.

A Practical Handbook of Midwifery and Gynaecology. Haultain and Kennedy, ed. 4, E. and S. Livingstone, Ltd., Edinburgh.

Ethicon Cat-A-Log, Ethicon Suture Laboratories, New Brunswick, N. J.

The Merck Index. ed. 6, Merck and Co., Inc., Rahway, N. J.

Transactions of the American Neurological Association, Merritt, editor, The William Byrd Press, Inc., Richmond, Va.

Collected Reprints, 1949. American Cancer Society. American Cancer Society, New York.

SUMMARY OF SERVICE

Local users, 63.	Borrowers by mail, 58.
Local packages, 26.	Packages mailed, 75.
	Films loaned, 98.

MOTION PICTURE FILM LIBRARY

Motion picture films on medical subjects, 16 mm., both silent and sound, some in color, and suitable for either medical or lay audiences, are available for loan to county medical societies, hospital staffs, or individual physicians, on request. Borrowers will be requested to pay only the cost of shipment of the films, by express, with insurance, and for any damage to films in the hands of the borrower.

Request for films should be addressed to "Motion Picture Film Library, Texas Medical Association, 700 Guadalupe Street, Austin, Texas." A list of available films with descriptions, will be furnished on request.

The following films were loaned by the Library during the month of March:

Anemia, Erythroblastic (Mead Johnson)—Advanced Human Physiology Class, University of Texas, Austin.

Anesthesia, Low Spinal (Modified Saddle Block) in Obstetrics (Ciba Pharmaceutical Products)—Lamb-Bailey-Hockley-Cochran Counties Medical Society, Littlefield, and Dallas Southern Clinical Society, Dallas.

Anesthesia, Novocain, in Obstetrics (Winthrop-Stearns)—Baylor University Pre-Medical Club, Waco.

Anesthesia, Regional (Winthrop-Stearns)—Department of Anesthesiology, Baylor University College of Medicine, Houston, and Dr. George C. Bryant, Waco.

Anesthesia with Vinethene (Merck and Company)—Littlefield Hospital and Clinic, Littlefield.

Appraisal of the Newborn (Mead Johnson)—Baylor University School of Nursing, Dallas.

As Others See Us (American Hospital Association)—Seton Hospital School of Nursing, Austin; Hendrick Memorial Hospital School of Nursing, Abilene; and Johns Clinic and Hospital, Taylor.

Aureomycin, The Versatile Antibiotic (Lederle Laboratories)—Technicians, University of Texas Medical Branch, Galveston.

Be Your Age (Metropolitan Life Insurance Company)—Rotary Club, Eastland.

Blood Transfusion (British Information Services)—Advanced Human Physiology Class, University of Texas, Austin.

Blood Transfusion, Technique of (Mead Johnson)—Southwestern University Pre-Medical Association, Georgetown.

Breast Cancer: The Problem of Early Diagnosis (American Cancer Society)—Alpha Epsilon Delta, University of Texas, Austin.

Breast Self-Examination (American Cancer Society)—American Association of University Women, Mineral Wells, and Grayson County Medical Auxiliary, Sherman.

Cesarean Section, Low Cervical (Mead Johnson)—Dr. Marshall L. Smith, Hamlin, and Littlefield Hospital and Clinic, Littlefield.

Chest Disease, Surgery In (British Information Services)—Alpha Epsilon Delta, Baylor University, Waco, and Austin State Hospital, Austin.

Cholecystectomy (Mead Johnson)—Littlefield Hospital and Clinic, Littlefield.

Choose to Live (American Cancer Society)—Gonzales High School, Gonzales.

Cloud in the Sky (Texas Tuberculosis Association)—Catholic Youth Club, Dilley.

Conquering Darkness (Hurst Eye, Ear and Throat Clinic)—Seton Hospital School of Nursing, Austin.

D.D.T., The Story of (British Information Services)—Ward County Health Unit, Monahans.

Diagnosis of Poliomyelitis (National Foundation for Infantile Paralysis)—Ennis Municipal Hospital Staff, Ennis, and Austin State Hospital, Austin.

Diphtheria and Croup (Lederle Laboratories)—Practical Nursing Vocational Course, Denison High School, Denison.

Diphtheria Antitoxin, Preparation of (American Medical Association)—Baylor University School of Nursing, Dallas, and Austin State Hospital, Austin.

Dysmenorrhea, Primary (G. D. Searle and Company)—Austin State Hospital, Austin.

Edema—Cardiac and Renal (Winthrop-Stearns)—Advanced Human Physiology Class, University of Texas, Austin.

Empyema, The Treatment of (Mead Johnson)—Dr. George G. Wyche, Jr., Alice, and Hendrick Memorial Hospital School of Nursing, Abilene.

Esophagogastrostomy, Supra-Aortic, For Carcinoma of the Mid-Portion of the Esophagus (Dr. Philip Thorek)—Dallas Southern Clinical Society, Dallas.

Esophagus, Surgical Treatment for Carcinoma of the Lower End of (Dr. Philip Thorek)—Southwestern University Pre-Medical Association, Georgetown.

Extracellular Fluid, Introduction to (Mead Johnson)—Advanced Human Physiology Class, University of Texas, Austin.

Eyes for Tomorrow (Hurst Eye, Ear, and Throat Clinic)—Lockney General Hospital Staff and Board of Directors, Lockney, and Seton Hospital School of Nursing, Austin.

Eyes, Your Children's (British Information Services)—University of Texas Medical Branch, Galveston.

Folvite in the Treatment of the Anemias (Lederle Laboratories)—Advanced Human Physiology Class, University of Texas, Austin.

Forty Billion Enemies (Westinghouse Electric and Manufacturing Company)—Ward County Health Unit, Monahans.

Functional Anatomy of the Hand (National Foundation for Infantile Paralysis)—Dallas Southern Clinical Society, Dallas, and Southwestern Medical School, Dallas.

Gastro-Intestinal Cancer: The Problem of Early Diagnosis (American Cancer Society)—Lamb-Bailey-Hockley-Cochran Counties Medical Society, Littlefield, and Dallas Southern Clinical Society, Dallas.

Gastroscopy, Role of, in Gastric Pathology (Harrower Laboratory)—Dallas Southern Clinical Society, Dallas.

Goiter Surgery (Mead Johnson)—Dr. George G. Wyche, Jr., Alice, and Littlefield Hospital and Clinic, Littlefield.

Health Is a Victory (American Social Hygiene Association)—Gonzales High School, Gonzales.

Heart Disease, Oxygen Therapy in (Linde Air Products)—Practical Nursing Vocational Course, Denison High School, Denison.

Hemicolectomy for Carcinoma of the Right Side of the Colon (Dr. Philip Thorek)—Dr. S. P. Zeitlin, San Antonio.

Hepatitis, Observations on (Mead Johnson)—Dr. George G. Wyche, Jr., Alice.

Here's Health the American Way (American Medical Association)—Alpha Epsilon Delta, University of Texas, Austin.

Human Fertility, Studies in (Ortho-Products)—Baylor University Pre-Medical Club, Waco, and Littlefield Hospital and Clinic, Littlefield.

Hypodermic Syringes and Needles: The Care and Function (Becton, Dickinson and Company)—Johns Clinic and Hospital, Taylor; Austin State Hospital, Austin; and Seton Hospital School of Nursing, Austin.

Immunization Against Infectious Diseases (Lederle Laboratories)—Technicians, University of Texas Medical Branch, Galveston, and Austin State Hospital, Austin.

Mastoid Surgery (Dr. Louis Daily)—Littlefield Hospital and Clinic, Littlefield.

Megacolon, Total Colectomy with Ileoproctostomy for Hirschsprung's Disease (Dr. Philip Thorek)—Dr. S. P. Zeitlin, San Antonio.

Meningioma, Removal with Cranioplasty (Dr. George Ehni)—University of Texas Medical Branch, Galveston.

Modern Nutrition (E. R. Squibb and Company)—Seton Hospital School of Nursing, Austin.

Nasal Sinusitis (E. Fougera and Company)—University of Texas Medical Branch, Galveston.

Normal Delivery (Mead Johnson)—Baylor University School of Nursing, Dallas.

Once upon a Time (Metropolitan Life Insurance Company)—Ward County Health Unit, Monahans.

Oxygen Therapy Procedures (Linde Air Products)—Seton Hospital School of Nursing, Austin, and Austin State Hospital, Austin.

Plain Facts (American Social Hygiene Association)—Gonzales High School, Gonzales.

Polio—Diagnosis and Management (British Information Services)—Baylor University School of Nursing, Dallas.

Portacaval Shunt for Portal Hypertension (Dr. Philip Thorek)—Dallas Southern Clinical Society, Dallas.

Premature Infant, Care of (Mead Johnson)—Baylor University School of Nursing, Dallas.

Ptosis, Operations for (Dr. Ray K. Daily)—Baylor University School of Nursing, Dallas.

Pyloric Stenosis, Congenital, Surgical Treatment for (Dr. Philip Thorek)—Dallas Southern Clinical Society, Dallas.

Question in Time (American Cancer Society)—Dr. Russell Youngberg, Itasca.

Red Wagon (Swift and Company)—Ward County Health Unit, Monahans.

Serum, Human, The Preparation of (Mead Johnson)—Advanced Human Physiology Class, University of Texas, Austin.

Skin Grafting of Extensive Burns (Eaton Laboratories)—Dallas Southern Clinical Society, Dallas.

Skin Studies (Procter and Gamble Company)—Austin State School, Austin.

Splenic Flexure Carcinoma. Surgical Treatment for, with Solitary Liver Metastasis (Dr. Philip Thorek)—Dallas Southern Clinical Society, Dallas.

Stitch in Time (American Medical Association)—Gonzales High School, Gonzales.

Sutures Since Lister (Johnson and Johnson)—University of Texas Medical Branch, Galveston, and Lockney General Hospital Staff and Board of Directors, Lockney.

Techniques of Injection (Becton, Dickinson and Company)—University of Texas Medical Branch, Galveston, and Seton Hospital School of Nursing, Austin.

They Also Serve (American Medical Association)—Hale-Floyd-Briscoe-Swisher Counties Medical Auxiliary, Plainview.

Time Is Life (American Cancer Society)—Catholic Youth Club, Dilley.

Traitor Within (American Cancer Society)—Grayson County Medical Auxiliary, Sherman.

Tuberculosis, Role of the Public Health Nurse in (Texas Tuberculosis Association)—Lockney General Hospital Staff and Board of Directors, Lockney.

Urologic Conditions, Diagnosis of (Winthrop-Stearns)—Hendrick Memorial Hospital School of Nursing, Abilene.

Vagotomy for Ulcerative Colitis (Dr. Philip Thorek)—Dallas Southern Clinical Society, Dallas.

Varicose Veins, Treatment of (G. D. Searle and Company)—Dr. F. Clay Weekley, Waco.

X-Ray, Chest, Routine Admission in General Hospitals (Texas Tuberculosis Association)—Lockney General Hospital Staff and Board of Directors, Lockney.

You Can Help (Texas Tuberculosis Association)—Rotary Club, Eastland.

BOOK NOTICES

[1]Current Therapy, 1951

HOWARD F. CONN, M. D., *editor. Cloth, 664 pages. $10. Philadelphia, W. B. Saunders Company, 1951.*

"Current Therapy 1951," edited by Dr. Howard F. Conn and twelve consulting editors with 386 contributors, all of whom are outstanding in their respective fields, represents an up-to-date method of therapy which will favorably influence, and tend to standardize, medical therapeutics over a period of years. For the more commonly encountered conditions the methods of two or more contributors are given. Only tried and proved agents are employed and the omission of those questionable products is a hint to the wise. The book is well written, brief but comprehensive. The editors are to be commended for their choice of contributors and they in turn for their frank statements of facts.

This book should be used regularly by all physicians and to do so is to raise the standard of practice.

[2]A Course in Practical Therapeutics

MARTIN EMIL REHFUSS, M. D., F.A.C.P., *Professor of Clinical Medicine and Sutherland M. Prevost Lecturer in Therapeutics, Jefferson Medical College, and Attending Physician, Jefferson Medical College Hospital;* ALISON HOWE PRICE, A. B., M. D., *Associate Professor of Medicine, Jefferson Medical College, and Chief of Diabetic Clinic, Curtis Clinic, Philadelphia. Second Edition. Cloth, 911 pages. $15. Baltimore, Williams and Wilkins Company, 1951.*

The revised second edition of "Practical Therapeutics" by Rehfuss and a long list of contributors is characterized by the simplicity of organization. The book is separated into four sections: General Therapeutic Principles, Symptomatic Therapy, Treatment of Specific Disorders, and Special Treatment.

The unlimited material has been presented both dogmatically and with appearance of definiteness. One is surprised to find in the complete listing of treatment some old-timers such as vertigo of billiousness approached with calomel (page 168). The portions of therapy in the administration of parenteral fluids is in disagreement with many authorities on fluid balance as too much saline is advocated throughout. The outline for the treatment of Graves' disease is questionable as radioactive iodine is relegated to a minor position in the chain of therapy. The inexperienced reader is given a distorted view of the role of surgery in peptic ulcer. One would like to see a surgical associate editor in a book of practical therapeutics in an age when surgery plays such a part in the therapy of many pathologic processes.

Incorporated into the text are a wealth of fine drawings to illustrate the important anatomic localizations of specific diseases or syndromes.

The book is recommended as a quick review and orientation for students and general practitioners.

[3]Management of Celiac Disease

SIDNEY VALENTINE HAAS, M. D., *Professor of Pediatrics and Director of the Department, New York Polyclinic Medical School and Hospital; Consultant, Lebanon Hospital, Harlem Hospital, and Riverside Hospital for Contagious Diseases of the New York Health Department; and* MERRILL PATTERSON HAAS, M. D. *Cloth, 186 pages. $5. Philadelphia, J. B. Lippincott Company, 1951.*

The authors give an exhaustive review of the literature of the disease under many different names. They give definition, incidence, etiology, and clinical symptoms. They discuss the pathology in regard to allergy, the nervous system, and infection. The etiology is unknown, but there is some hereditary tendency to the disease.

The disease has much in common with cystic fibrosis of the pancreas.

All cases can be cured by the "carbohydrate specific diet" and helped by water soluble vitamins and iron.

The authors give a possible explanation as to the cause of the disease and a review of 603 cases that they have seen. The book is important for persons interested in celiac disease.

[4]Synopsis of Surgical Anatomy

ALEXANDER LEE MCGREGOR, M. Ch. (Edin.), F.R.C.S. (Eng.), *Senior Surgeon, Johannesburg General Hospital; Lecturer in Surgery, University of the Witwatersrand. Seventh edition. Cloth, 738 pages. $6.50. Baltimore, Williams and Wilkins Company, 1950.*

At first sight one is not impressed by this little book. The print is too small, there are no colored pictures, and there is no imposing list of contributors. However, the author states that the book is written to present anatomic facts of practical value, and this it certainly does in an admirable and understanding manner.

One of the first lessons the young surgeon learns is that there are two kinds of anatomy. The first is the anatomy of Sabotta, Spalteholz, Cunningham, and Grey, the anatomy taught in the dissecting laboratory and in the beautiful injected specimens seen in anatomic museums. This anatomy is fundamental and is the necessary groundwork for every phase of the study and practice of medicine and surgery. But there is another type of anatomy, which one might call practical anatomy. It is that encountered by the young resident when he first sets sail upon the unchartered seas of radical surgery of the neck or of hemipelvectomy. It is seen when he has his first experience with the maze of collateral circulation which develops in the presence of mediastinal tumors. It is encountered when he first finds himself lost in anomalous biliary passages, the mysteries of the triangle of Marcille, or the strange relations of the peritoneum and fascia in a patient who has had major surgery of the large bowel. One can learn about these things only by experience, but the student has no book to which he can go after one of these soul shaking experiences to find peace in the realization that this problem is not new, that it has been encountered and studied and solved before by other surgeons. Dr. McGregor's book has been written with these things in mind.

Throughout the book are simplified diagrams of important anatomic landmarks used every day in surgical practice. For example, Alcock's canal, the contents of which are clearly shown in a small picture, takes up less than a third of one of the small pages of this book and is described in a paragraph of less than ten lines. The ischio-rectal fossa is clearly demonstrated in a series of simple diagrams which are clearly marked and easily understood.

Other chapters of interest concern the accessory peritoneal bands, the inguinal region, and the anatomy of the child. There is an excellent chapter on the nerves, and I particularly recommend a discussion on the automonic nervous system. Part II of the book is concerned with the anatomy of the abnormal; in it are discussed the anatomy of congenital errors, the anatomy of nerve injuries, collateral circulation, and the pathology of bone in terms of anatomy. There is a good section on rectal and vaginal examination and another on anatomic basis of clinical tests.

Finally, I recommend the section on the anatomy of surgical procedures wherein all the myriad incisions, punctures,

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[1]*W. D. Roberts, M. D., Austin.*
[2]*Kurt Lekisch, M. D., Midland.*
[3]*Thomas D. McCrummen, M. D., Austin.*
[4]*Robert Franken, M. D., Houston.*

twists, and pressures to which patients are subjected are evaluated and discussed from an anatomic standpoint.

The only criticism of this book is that in places it is perhaps oversimplified. However, this fault is easily compensated for by the fact that from this book one may find his bearings. Here is information that will take him through almost any surgical procedure under any circumstance of pathology, of previous surgery, or of anomaly. I recommend the book to all who are interested in surgery.

[5]Grouping, Typing and Banking of Blood

OTAKAR JAROSLAV POLLAK, M. D., Ph. D., F.C.A.P., *Director, Blood Bank; Chief, Department of Anatomical, Clinical and Experimental Pathology; Director, School for Medical Technologists, Quincy City Hospital, Quincy, Mass. First edition. Cloth, 155 pages. $5.75. Springfield, Ill., Charles C. Thomas, 1951.*

This short, concise book was meant by the author to be used by persons who are not specialists in hematology. The physician in a small hospital will find it extremely useful in operating the small blood bank. It will be read and studied to great advantage by technicians and nurses in blood bank work.

It is not a highly technical treatise but reviews the theoretical background necessary to blood typing and grouping and deals with the Rh factor in a complete yet readily understandable manner. Erythroblastosis is well discussed as to its causes, anticipation of its occurrence, and manner of dealing with the erythroblastotic infant. The actual mechanics and physical requirements in setting up a blood bank are explained step by step clearly and briefly.

A small hospital without a resident pathologist desiring a blood bank should find this book invaluable.

[6]Modern Electrocardiography, Volume 1—The P-Q-R-S-T-U Complex

EUGENE LEPESCHKIN, M. D., *Assistant Professor of Experimental Medicine, University of Vermont College of Medicine. Cloth, 905 pages. $12. Baltimore, Williams and Wilkins Company, 1951.*

In contrast to an elementary textbook on electrocardiography bearing a similar title, this volume will be of interest mainly to those well versed in the fundamentals of electrocardiography and in the advances made during the past decade or more. This book is primarily a reference book or bibliography although the material is presented in the form of a textbook. Few sentences and no paragraphs lack a reference to the complete index of the original work on all subjects under consideration. Consequently, here is an excellent survey of the vast amount of work which has been completed as the basis of current concepts of electrocardiography.

The foreword by Frank N. Wilson, states that Dr. Lepeschkin "is particularly well qualified" for the "formidable task" of compiling such a bibliography. "Using it over a long period," one will find out "how often it clarifies the problems and answers the questions that arise in the course of one's daily work more satisfactorily than other books of its kind."

Probably, in the next edition, following communications from the Institute of Cardiology in Mexico City, there will be revision of the paragraph concerning the infrequency of occurrence of right axis deviation in patent ductus arteriosus.

This is a book which could hardly be recommended to the beginner in electrocardiography but which will constitute an essential part as an accurate and complete reference in the library of any electrocardiographer.

[5]*J. C. George, M. D., Brownsville.*
[6]*W. B. Whiting, M. D., Wichita Falls.*

[7]Roentgen Examinations in Acute Abdominal Diseases

J. FRIMANN-DAHL, M. D., Ph. D., *Chief of Roentgen Department, Ulleval Hospital, Oslo, Norway. First edition. Cloth, 318 pages. $10.50. Springfield, Ill., Charles C. Thomas, 1951.*

This book brings together in one volume the roentgen findings in most of the causes of acute abdominal distress which are scattered in the literature along with many of the author's own new and stimulating observations. Most of the references are from the Scandinavian literature.

The first fourth of the book includes a chapter on technique. The author does not give a preliminary enema and stresses fluoroscopy of the chest as well as the abdomen. There are excellent chapters on the normal and general pathologic findings. The discussion of abdominal and intestinal gas and fluid is especially good. The remainder of the book is devoted to specific causes of acute conditions of the abdomen and their roentgen findings.

The printing, binding, and paper are good. In only two or three places is the translation not entirely clear. Italics are used to stress points, the illustrations are exceptionally good throughout, and the free use of clinical data make for easy and interesting reading.

Several of the author's ideas are controversial, for example: nearly all intestinal gas is swallowed air; there is no need to fill the colon completely with barium if one hindrance is met; and volvulus of the sigmoid can usually be best treated by passing a tube past the stricture.

The book can be recommended to radiologists as all who read it will learn something new, to any doctor who looks at films of the abdomen, and to surgeons interested in what help they can expect from the radiologist in their cases of acute abdominal disease.

[8]Immunology

NOBLE PIERCE SHERWOOD, Ph. D., M. D., F.A.C.P., *Professor of Bacteriology, University of Kansas, and Pathologist to the Lawrence Memorial Hospital, Lawrence, Kan. Third edition. Cloth, 684 pages. $8. St. Louis, C. V. Mosby Company, 1951.*

The author has brought the subject up-to-date with emphasis on the underlying principles involved in infection, resistance, and diagnostic laboratory tests.

Among the new topics discussed are the new blood groups, latent infection, mechanism of viral infection, and the role of vitamins and endocrines to resistance.

The material in many chapters is condensed and an extensive list of references is given, allowing one to study in more detail the subject matter in which he is chiefly interested. The book should be of interest to medical students, bacteriologists, immunologists, and research workers interested in related subjects.

The Internship

ROSCOE L. PULLEN, A. B., M. D., F.A.C.P., *Professor of Graduate Medicine, Director of the Division of Graduate Medicine, and Vice-Dean, Tulane University of Louisiana, School of Medicine, New Orleans. Paper, 35 pages. $1.25. Springfield, Ill., Charles C. Thomas, 1952.*

Present Status of Antibiotic Therapy

FRANCIS G. BLAKE, M. D., *Department of Internal Medicine, Yale University School of Medicine, New Haven. Paper, 26 pages. 90 cents. Springfield, Ill., Charles C. Thomas, 1952.*

[7]*Emmett Doles, M. D., Austin.*
[8]*S. W. Bohls, M. D., Austin.*

ORGANIZATION SECTION

AMERICAN MEDICAL ASSOCIATION

Rural Health Field Director Visits Texas

Mr. Aubrey D. Gates, new field director for the Council on Rural Health of the American Medical Association, was in Texas early in April to confer with officials of the Texas Medical Association, Farm Bureau, Extension Service, and others concerned with rural health. Mr. Gates formerly was associate director of the Agricultural Extension Service in Arkansas but had worked on a temporary basis for the A.M.A. during the fifteen months prior to February 1, when his permanent appointment became effective.

Appointment of the field director came almost simultaneously with the seventh National Conference on Rural Health held in Denver, February 29 and March 1, at which more than 400 leaders in medicine, agriculture, and education were present to discuss the improvement of rural health programs throughout the country.

COUNTY SOCIETIES

Angelina County Society

January 14, 1952

(Reported by G. S. Shepard, Secretary)

Officers of the Angelina County Medical Society for 1952 were installed at a dinner meeting in Lufkin on January 14. They included R. K. Arnett, president; B. H. Denman, vice-president; G. S. Shepard, secretary; and L. H. Denman, censor. All are of Lufkin.

Serving on the committee for entertainment are B. H. Denman, Gail Medford and W. D. Thames, Jr. L. H. Denman was elected delegate to the Texas Medical Association.

Brazoria County Society

Urologic Cancer—Marvin Rape, Houston.

The above named program was presented at the February meeting of the Brazoria County Medical Society held in Freeport. Prior to the business meeting and scientific program, the society met with members of the Woman's Auxiliary for dinner.

The cases of poliomyelitis in Lake Jackson were discussed, and plans for the essay contest sponsored by the Association of American Physicians and Surgeons were outlined. The Brazoria County Medical Society voted to present three prizes to winners of the contest.

New members of the society were George Stevens, Lake Jackson; John O'Leary, Lake Jackson; and Robert A. Hale, Angleton.

Brown-Comanche-Mills-San Saba Counties Society

January 14, 1952

Howard E. Smith, Austin, and Richard F. Allison, Sanatorium, were guest speakers at the meeting of the Brown-Comanche-Mills-San Saba Counties Medical Society January 14 in Brownwood.

Dr. Smith is director of the Tuberculosis Division, Texas State Department of Health, and Dr. Allison is medical director of McKnight Tuberculosis Sanatorium.

Dr. Smith pointed out the reduction in the number of deaths from tuberculosis since 1937 and attributed the reduction to higher living standards, better diagnostic techniques, improved surgical skills, and new drugs.

Dr. Allison discussed diagnosis and treatment of tuberculosis cases and sanatorium care.

Tuberculosis case histories were given by W. F. Benson, J. B. Stephens, Homer B. Allen, Jr., and Paul Wheelis.

Cherokee County Society

Officers of the Cherokee County Medical Society for 1952 are Collier Rucker, Jacksonville, president; W. E. Gabbert, Rusk, vice-president; and T. H. Cobble, Rusk, secretary-treasurer.

Cooke County Society

Louis Levy, Fort Worth, was guest speaker for the Cooke County Medical Society meeting January 15 in Gainesville.

Officers elected at the meeting were William F. Powell, president; John D. Shea, vice-president; and Gilbert I. Anderson, secretary-treasurer. Dr. and Mrs. Anderson were in charge of arrangements for the dinner meeting.

Dallas County Society

March 11, 1952

(Reported by W. W. Fowler, Secretary)

Symposium: Current Trends in Treatment of Hyperthyroidism—
Medical Aspects—T. Haynes Harvill, Dallas.
Radiologic Aspects—J. E. Miller, Dallas.
Surgical Aspects—Morris Fogelman, Dallas.
Discussion—J. Hudson Dunlap, Dallas.

The Dallas County Medical Society met March 11 with the medical staff of Baylor Hospital and were dinner guests at the hospital preceding the program and business meeting.

Barton Park, president of the society, conducted the business meeting and introduced G. E. Brereton, president of the Baylor medical staff, who conducted a meeting for his staff.

The above outlined scientific program was introduced by the vice-chairman of the program committee, Manning Shannon.

Karl King, president of the Dallas Southern Clinical Society, urged members to register for the annual meeting. E. R. Cox urged physicians to advise their patients to have chest roentgenograms made during the county survey.

New members introduced were James Joseph Quilligan, Jr., S. Rosa Frank, James Flimen Biggart, Jr., Herman Ulevitch, William H. Pickett, James L. Baldwin, Donald G. Kilgore, Jr., and Morris Joseph Fogelman.

The president announced that after the meeting the radio address of Senator Robert Taft would be made available to those wishing to remain.

Gray-Wheeler-Hansford-Hemphill-Lipscomb-Roberts-Ochiltree-Hutchinson-Carson Counties Society

February 19, 1952

Polypoid Disease of the Bowel—Robert J. Rowe, Dallas.

The Gray-Wheeler-Hansford-Hemphill-Lipscomb-Roberts-Ochiltree-Hutchinson-Carson Counties Medical Society met February 19 in Pampa.

The above scientific program was presented. Dr. Rowe invited the society to attend the meeting of the Dallas Southern Clinical Society, March 17-20. The society voted to change the date of the next regular meeting in order that Dr. Rowe's invitation could be accepted.

MacField McDaniel introduced the speaker, and several guests from Amarillo attended.

Hardeman-Cottle-Foard-Motley Counties Society

March 11, 1952

(Reported by Ben W. Gilliotte, Secretary)

The Hardeman-Cottle-Foard-Motley Counties Medical Society met in Quanah on March 11 for dinner, after which the members participated in the postgraduate telephone broadcast sponsored by the Texas Medical Association. After the program Thomas B. Smith, Paducah, led a discussion of the program. The society voted to take part in the next broadcast.

Hardin-Tyler Counties Society

Officers of the Hardin-Tyler Counties Medical Society are R. A. Tate, Kountze, president; Robert Ryan, Sour Lake, vice-president; George T. Tennison, Silsbee, secretary-treasurer; and Watt Barclay, Woodville, delegate.

Hays-Blanco Counties Society

(Reported by J. R. deSteiguer, Secretary)

Charles W. Scheib, San Marcos, president of the Hays-Blanco Counties Medical Society, recently announced the appointment of members to the legislative and public relations committee and the cancer committee of the county society.

Serving on the legislative and public relations committee are T. C. McCormick, Buda; W. L. Moore, Jr., San Marcos; and M. C. Williams, San Marcos. The cancer committee is composed of D. L. White, San Marcos; J. J. Flannery, Blanco; M. D. Heatley, San Marcos; R. F. Sowell, San Marcos; and W. T. Edwards, San Marcos.

Hill County Society

January 11, 1952

Management of Head Injuries—Fred C. Rehfeldt, Fort Worth.
Managment of Chest Injuries—James McBride, Fort Worth.
Radical Pelvic Operation for Cancer—E. M. Cyrus, Fort Worth.

The above scientific program was presented at the January 14 meeting of the Hill County Medical Society in Hillsboro. Dale Campbell, Itasca, presented the program.

Lamar County Society

March 11, 1952

(Reported by J. R. Kelsey, Jr., Secretary)

Thirteen members of the Lamar County Medical Society heard the second broadcast on March 11 in the series of postgraduate telephone broadcasts sponsored by the Texas Medical Association. The society voted to continue participation in the broadcasts.

Lamb-Bailey-Hockley-Cochran Counties Society

At the January meeting of the Lamb-Bailey-Hockley-Cochran Counties Medical Society held in Littlefield, officers for 1952 were elected. F. B. Faust, Littlefield, was named president; W. W. Monk, Morton, vice-president; W. C. Nowlin, Littlefield, secretary-treasurer; and Vernon Edgar, Levelland, delegate.

Dr. Nowlin showed a scientific film.

Lampasas-Burnet-Llano Counties Society

Management of Athletic Injuries—Sandi Esquivel, Austin.
Phases of Skin Disorders—C. H. McCuistion, Austin.

The above scientific program was presented at the March meeting of the Lampasas-Burnet-Llano Counties Medical Society in Burnet.

Election of officers was held and the following physicians were chosen to serve for 1952: Rush McMillin, Lampasas, president and delegate; and M. K. Patteson, Lampasas, secretary-treasurer.

Lubbock-Crosby Counties Society

March 4, 1952

(Reported by Wallace I. Hess, Secretary)

Osteoporosis of Bone—Frank C. Goodwin, Lubbock.

Recommendations of the public relations committee of the Lubbock-Crosby Counties Medical Society that an emergency telephone service be initiated were presented at the March 4 meeting of the Lubbock-Crosby Counties Medical Society in Lubbock.

Fred Kallina of the public relations committee announced that a uniform listing of physicians would be given the telephone company for use in the new directory, and that the American Medical Association's classification of nineteen specialties and general practice would be recommended.

The membership application of Howard R. Hancock was approved and Dr. V. V. Clark was elected to honorary membership. A. H. Daniel and Cecil Knox invited the members to a one-day meeting of the Second District Medical Society on March 11.

Potter County Society

March 11, 1952

(Reported by Mrs. Cassie Atherton, Executive Secretary)

Forty-five members of the Potter County Medical Society met in Amarillo on March 11 for a business meeting and to hear the postgraduate telephone broadcast, "Recognition and Treatment of Abdominal Emergencies," presented by the Texas Medical Association.

Each physician at the meeting was presented a red carnation by members of the Woman's Auxiliary in recognition of "Doctor's Day."

The transfer of membership of John Coffey of Childress was approved. The society voted to buy a full page advertisement in the Amarillo High School annual, "La Airosa."

San Patricio-Aransas-Refugio Counties Society

February 20, 1952

(Reported by Arch C. Koontz, Secretary)

Preventive Medicine in Korea—Col. James H. Gordon, M. C., Fort Sam Houston.
Duties of Physicians to Their Community, State, and Nation—A. J. Ashmore, Corpus Christi.

Thirty-five members and guests were present for the meeting of the San Patricio-Aransas-Refugio Counties Medical Society held in Woodsboro on February 20 when the program as outlined above was presented.

Colonel Gordon, who has recently returned from Japan and Korea, gave an account of the accomplishments of the preventive medical branch in the United Nations field operations.

Troy Shafer, councilor of the Sixth District of the Texas Medical Association, spoke. James Lovick Pierce, Sinton, and Melross C. Rittman, Sinton, were admitted to membership in the society by transfer from other county medical societies.

Hosts for the meeting were C. A. Selby, Sinton, and John Bull, Aransas Pass.

Tarrant County Society

February 12, 1952

(Reported by W. P. Higgins, Jr., Secretary)

A dinner meeting of the Tarrant County Medical Society was held February 12 with eighty-two members in attendance. After dinner the group heard the postgraduate telephone broadcast, "Recognition and Treatment of Circulatory Accidents or Emergencies."

The society voted to hold a one-day annual clinic. J. W. Collier and Vern Rohrer were elected to membership.

March 4, 1952

Treatment of Chest Emergencies as Related to the General Practitioner —James O. McBride, Fort Worth.

Discussion—Henry W. Harper, William M. Crawford, Otto H. Grunow, and T. C. Terrell, Fort Worth.

At the March 4 meeting of the Tarrant County Medical Society the above scientific program was presented. F. C. Barber was elected to membership and W. B. West resigned as delegate to the Texas Medical Association.

Hobart O. Deaton brought to the attention of the members an amendment to the Constitution and By-Laws of the Texas Medical Association which will receive final action at the next annual session. He urged the members to consider the proposed change and inform delegates from the county society of their opinions prior to the annual session.

Travis County Society

February 12, 1952

(Reported by John F. Thomas, Secretary)

The Travis County Medical Society met February 12 to hear the first in the series of postgraduate telephone broadcasts sponsored by the Texas Medical Association. After the broadcast a discussion was held with M. F. Kreisle, president, serving as moderator.

William M. Gambrell, Jr., was accepted as a resident member of the society, and transfer memberships for George W. Jackson and Hayden H. Donahue were approved.

Physicians who are willing to serve on a speaker's bureau for the lay education committee of the Travis County unit of the American Cancer Society were urged to notify the chairman, C. P. Oliver, Ph. D.

Upshur County Society

Officers for 1952 of the Upshur County Medical Society are J. L. Fenlaw, president; H. M. Ragland, secretary; M. S. Ragland, delegate; and H. J. Childress, alternate, all of Gilmer.

Wharton-Jackson-Matagorda-Fort Bend Counties Society

March 11, 1952

(Reported by Lorraine I. Stengl, Secretary)

John P. McGraw, roentgenologist from the M. D. Anderson Hospital, Houston, spoke at a meeting of the Wharton-Matagorda-Fort Bend Counties Medical Society and Auxiliary in Palacios on March 11. Dr. McGraw presented a series of diagnostic film problems.

At the business meeting the application for membership of Kenneth M. Kressenberg, Wharton, was accepted.

DISTRICT SOCIETIES

Ninth District Society

March 19, 1952

(Reported by Lyman C. Blair, Secretary)

MORNING

Practical Approach to Functional Disorders with Particular Reference to the Heart—E. P. Tottenham, Brenham.

Vaginal Hysterectomy—W. F. Hasskarl, Jr., Brenham.

A Variety of Intrathoracic Lesions—James E. Dailey, Houston.

Surgical Aspects of Mitral Valvulotomy, Experience with Eighteen Cases—Denton A. Cooley, Michael E. DeBakey, and Don W. Chapman, Houston.

Remarks on Cardiology—B. F. Smith, Houston.

The RH Factor, Practical Application and Clinical Significance—William R. Knight, III, Houston.

AFTERNOON

(Program by Baylor University College of Medicine)

Tumors of the Neck—J. Allen Chamberlain, Houston.

Carcinoma of the Breast—C. Gary Turner, J. M. Dougall, and Stuart A. Wallace, Houston.

Malignant Lymphomas—Jesse F. Gamble, Robert A. Hertig, and Stuart A. Wallace, Houston.

The second annual meeting of the Ninth District Medical Society was held March 19 in Navasota with approximately seventy-five physicians attending.

The program as outlined above was presented. F. Ray Black, Huntsville, presided at the morning program and business meeting at which dues were increased to $1.50 yearly to provide funds for the publication, *Medical Record and Annals*.

F. J. L. Blasingame, Wharton, trustee of the American Medical and Texas Medical Associations, was the luncheon speaker. His topic was, "Your American Medical Association." During the afternoon the medical session of the Ninth District, Texas Division of the American Cancer Society, was held with staff members of Baylor University College of Medicine presenting the program. J. T. Billups, Houston, presided at the afternoon session.

Elected to office during the meeting were Otto F. Schoenvogel, Brenham, president; George D. Bruce, Baytown, vice-president; and Lyman C. Blair, Houston, secretary-treasurer. The 1953 meeting will be held in Baytown.

AUXILIARY SECTION

AUXILIARY NEWS

Bexar County Auxiliary

The Woman's Auxiliary to the Bexar County Medical Society observed guest day on March 14.

Mrs. J. R. Blair, Jr., chairman of the health education program for the auxiliary, introduced the speaker, Miss Lucy Banks, supervisor of the elementary division of the San Antonio Public Schools. Miss Banks explained the school children's presentation of the radio script, "Healthy Living in Bexar County." Students from Woodrow Wilson School participated in a program on immunization.

Hostesses were Mesdames J. B. Miller, Jr., A. O. Severance, I. C. Skinner, and Boen Swinney.

Officers of the Woman's Auxiliary to the Texas Medical Association: President, Mrs. O. W. Robinson, Paris; President-Elect, Mrs. Robert F. Thompson, El Paso; First Vice-Presidents (Organization), Mrs. V. M. Longmire, Temple; Second Vice-President (Physical Examinations), Mrs. John H. Wootters, Houston; Third Vice-President (Today's Health), Mrs. R. T. Travis; Jacksonville; Fourth Vice-President (Program), Mrs. Cecil O. Patterson, Dallas; Recording Secretary, Mrs. E. W. Coyle, San Antonio; Treasurer, Mrs. John D. Gleckler, Denison; Corresponding Secretary, Mrs. Clarence E. Gilmore, Paris; Publicity Secretary, Mrs. A. H. Neighbors, Sr., Austin; Parliamentarian, Mrs. T. Herbert Thomason, Fort Worth.

Bowie and Miller Counties Auxiliaries

The Bowie and Miller Counties Medical Auxiliaries met in Texarkana in January for a luncheon and meeting at which a film produced by the American Cancer Society was shown. Dr. Richard Brunazzi, Texarkana, commented on the film. Mrs. Cyrus P. Kelin, public relations chairman, introduced the program.

Hostesses included Mesdames Klein, J. T. Robison, Decker Smith, Raymond Hughes, and Charles Yarbrough.

Mrs. Wayne Ingold presented vocal solos accompanied by Mrs. Carl Pelley.

Brazoria County Auxiliary

Guest speakers at a meeting of the Brazoria County Auxiliary held February 28 were Miss Virginia Lane, chairman of the committee on careers of the Sixth District of Texas Graduate Nurses Association, and Miss Marjorie Bartholf, dean of the School of Nursing at John Sealy Hospital, Galveston.

The speakers pointed out that causes for the need of more nurses are the increase in the number of hospitals, the increased population, and present world affairs. Kinds of schools, costs for training, and criteria in selecting a good school also were discussed.—Mrs. Warren Hardwick, Corresponding Secretary.

Cameron-Willacy Counties Auxiliary

Mrs. M. R. Bedri, Harlingen, spoke about her recent trip to Israel at the January meeting of the Cameron-Willacy Counties Auxiliary in Harlingen. Prior to the talk the members of the auxiliary had dinner with the members of the county medical society, and the executive board of the auxiliary was hostess for a social hour.

Cherokee County Auxiliary

Mr. Jack Wisener, Wells, state representative of district 17, urged members and guests of the Woman's Auxiliary to the Cherokee County Medical Society to make government their business by combating ignorance of government affairs. Mr. Wisener, who spoke at the January meeting of the auxiliary, was introduced by Dr. J. M. Travis.

The meeting was held in the home of Dr. and Mrs. R. E. Bishop in Jacksonville, and a special guest was Mrs. O. W. Robinson, Paris, President of the Woman's Auxiliary to the Texas Medical Association.

Mrs. J. T. Boyd, president, introduced Mrs. Robinson, who spoke on the Auxiliary's program for the year and urged members to take an active part in their government.

Prior to the meeting Mrs. Bishop served a buffet dinner.

Galveston County Auxiliary

The Woman's Auxiliary to the Galveston County Medical Society held a pre-Lenten game day February 20 for members and guests. Mrs. Charles T. Stone, Jr., chairman of the arrangements committee, was assisted by Mrs. Edward Furch II and Mrs. Theodore Panos.

Lamar County Auxiliary

Mrs. Lem Prock, senior health nurse for Lamar County, spoke on "The School Health Picture in Lamar County" at the March meeting in Paris of the Woman's Auxiliary to the Lamar County Medical Society.

Mrs. Prock stressed the need of chest roentgenograms and physical examinations for teachers and food handlers in the schools as well as the need for an additional school nurse. She stated that of 265 children in city schools who were requested to consult their family doctors about possible physical defects, only 42 students complied.

Mrs. O. W. Robinson, Paris, President of the Woman's Auxiliary to the Texas Medical Association, presided at the refreshment table during the coffee held prior to the program. Mrs. Robinson urged all members to attend the annual meeting in Dallas in May.—Mrs. W. L. Kelley.

McLennan County Auxiliary

Miss Emaline Bryant, director of the Waco-McLennan County Child Welfare Unit, spoke recently at a meeting of the Woman's Auxiliary to the McLennan County Medical Society in Waco.

The development of child welfare programs which began in 1900 with Jane Adams' Hull House, was discussed by the speaker. She explained that the most important service in child welfare work is keeping the family together if possible. Mrs. Milton Spark presided at the meeting.

Nacogdoches County Auxiliary

Officers of the Nacogdoches County Auxiliary were elected at the January meeting held in the home of Mrs. C. F. Neuville, Nacogdoches. They include Mrs. James I. Allen, president; Mrs. A. L. Nelson, vice-president; and Mrs. Stephen B. Tucker, secretary-treasurer.

An appeal was made for volunteers to solicit for the spring drive of the American Red Cross and for donors to the blood mobile unit. The members voted to cooperate with the City Federation of Women's Clubs in the book drive for Nacogdoches Public Library and in the shrub showers to be given the senior women's dormitory at Stephen F. Austin State Teachers College.

Navarro County Auxiliary

Dr. Robert W. Kimbro, Cleburne, chairman of the Committee on Public Relations of the Texas Medical Association, and Mrs. O. W. Robinson, Paris, President of the Woman's Auxiliary to Texas Medical Association, spoke to the Navarro County Auxiliary on March 14 in the home of Mrs. W. R. Sneed, Corsicana.

Dr. Kimbro stated that the nation has drifted to the left in its government and pointed out that no nation has survived a socialisic form of government. He recommended the following methods of promoting better patient-doctor relations throughout the state: organizing grievance boards; setting up emergency call panels to enable patients to secure doctors at night; and better distribution of doctors.

Mrs. Robinson reemphasized Dr. Kimbro's recommendation that wives of physicians be active in civic affairs.—Mrs. S. H. Burnett.

Nueces County Auxiliary

The Woman's Auxiliary to the Nueces County Medical Society installed officers at a luncheon meeting in the Robert Driscoll Hotel February 25. Mrs. James L. Barnard, outgoing president and parliamentarian, presided and Mrs. T. W. Edwards was installing officer.

New officers are Mrs. E. King Gill, president; Mrs. Sam Powell, president-elect; Mrs. Hugh A. Kennedy, first vice-president; Mrs. H. E. Griffin, second vice-president; Mrs. Jackson Giles, third vice-president; Mrs. F. F. Rogers, recording secretary; Mrs. James I. Tyree, corresponding secretary; Mrs. J. G. Bryson, treasurer; Mrs. Paul Gray, historian; and Mrs. C. D. Stewart, reporter.

Hostesses for the luncheon were Mesdames L. P. Guttman, Y. C. Smith, J. R. Riley, and L. C. Wright.

Orange County Auxiliary

Officers of the Woman's Auxiliary to the Orange County Medical Society were elected recently at a meeting in the home of Mrs. Leo J. Peters, Orange.

Serving for 1952 are Mrs. E. H. Kent, president; Mrs. David Bennett, vice-president; Mrs. W. H. Siddon, secretary-treasurer; and Mrs. T. O. Woolley, parliamentarian.

At the March meeting of the auxiliary winners in the essay contest sponsored locally by the Orange County Medical Society and auxiliary were announced by Mrs. Peters, president. The winners of the three prizes were Barbara Berryhill, Grace Solomon, and Jeannette Jeanis, all students of St. Mary's Catholic School. Mrs. C. B. Shaddock and Mrs. E. H. Kent were hostesses for the meeting and Mrs. E. C. Bretz was welcomed as a new member. Mrs. E. W.

Schlies, who is leaving the city in April, was honored with a farewell gift.

Taylor-Jones Counties Auxiliary

The Taylor-Jones Counties Auxiliary met February 12 in the home of Mrs. J. M. Hooks. Hostesses included Mesdames Milton Bessire, H. H. Hamilton, Grady Shytles, J. N. Burditt, and C. L. Prichard, all of Abilene; and W. T. Sadler, Merkel; and Ben Nail, Haskell. Two new members, Mrs. A. G. Arrant and Mrs. R. E. Colbert, Rule, were introduced.

New officers are Mrs. Travis Smith, president; Mrs. Sol Estes, president-elect; Mrs. Lee Williamson, first vice-president; Mrs. Harry Bridge, second vice-president; Mrs. Mack Bowyer, third vice-president; Mrs. John Gilmore, fourth vice-president; Mrs. Virgil A. Pate, recording secretary; Mrs. Jarrett Williams, corresponding secretary; and Mrs. Jack Crow, delegate, all of Abilene.

At the meeting of the Taylor-Jones Auxiliary held March 11 in the home of Mrs. W. B. Adamson, Mrs. Coleman Burns, chairman of legislation, presented the program. Hostesses were Mesdames W. V. Ramsey, R. W. Varner, W. J. Mathews, J. P. Gibson, L. F. Metz of Stamford, C. B. Leggett, and Sol B. Estes.—Mrs. C. A. McFadden, Publicity Secretary.

Travis County Auxiliary

Dr. William C. Adamson, director of the Austin Community Guidance Center, spoke to the Woman's Auxiliary to the Travis County Medical Society on March 18 in the home of Mrs. James T. Robison.

Dr. Adamson outlined the development of the Guidance Center, stressing the part the county medical society had in its growth and the center's relationship to other community agencies which have a significant role in the emotional growth and development of the child. The speaker said the guidance center employs "team approach" in working with the family as a basic unit in the social structure.

Winners of the essay contest sponsored in this county by the woman's auxiliary were announced as Betty Joyce Wieland, Pflugerville High School, first prize of $35, and Tom Atchison, St. Edward's High School, second prize of $25.

Hostesses were Mesdames Palmer Woodson, Ralph Hanna, chairmen; Henry Blaustone, J. J. Brady, Joe Eckhardt, Phillip Flynn, A. T. Hanretta, H. E. Holtz, J. E. Johnson, M. F. Kreisle, T. J. McElhenney, Barth Milligan, A. H. Neighbors, Clay Perkins, Glen Radcliffe, J. T. Robison, J. D. Simpson, and R. C. Rowell.—Mrs. T. N. Watt.

Washington County Auxiliary

A program on "Dental Health" was presented and election of officers took place at the February meeting of the Washington County Auxiliary held in Brenham.

New officers of the group are Mrs. G. V. Pazdral, Sommerville, president; Mrs. C. W. Schoenvogel, Brenham, vice-president; Mrs. E. P. Tottenham, Brenham, recording secretary; Mrs. W. F. Hasskarl, Sr., Brenham, corresponding secretary; Mrs. W. A. Knolle, Brenham, reporter; and Mrs. W. J. Embrey, Brenham, parliamentarian.

Mrs. Fred Graber was the program chairman and hostess for the meeting. In observance of "Dental Day," the program was sponsored by members of the woman's auxiliary to the dental association. Mrs. S. J. Enloe, Bryan, president of the Woman's Auxiliary to the Brazos Valley Dental Society, and Mrs. G. Rankin Hardy, Gainesville, were speakers.

DEATHS

F. E. GESSNER

Dr. Francis Emil Gessner, Dallas, Texas, died suddenly at his home February 4, 1952, from a heart attack.

Dr. Gessner was a native of New Haven, Conn., born August 20, 1890, to Emil A. and Martha P. (Everitt) Gessner. He was educated in the New Haven public schools. After graduation in 1912 from Yale University School of Medicine, New Haven, he was intern at the Rhode Island Hospital, Providence, then resident in obstetrics at Providence Lying-In Hospital. Prior to World War I he had joined the Connecticut National Guard, and from 1916 to 1929 he served in the United States Army Medical Corps, being discharged honorably with the rank of major. Dr. Gessner practiced in Houston from 1929 until 1931, at which time he moved to Dallas. In the latter city he maintained his medical practice until his death; he was a general practitioner. Dr. Gessner was a member of the staff of Methodist Hospital. His special interest was in preventive medicine and public health; postgraduate work in this field was done at Johns Hopkins University, Baltimore, from which he received the degree doctor of public health in 1926, and the Army Medical School, Washington, D. C.

A fellow of the American Medical Association, Dr. Gessner was a member of the Texas Medical Association through Dallas County Medical Society. He was also affiliated with the Southern Medical Association and the Dallas Chapter of the American Academy of General Practice. He was a former vestryman of the Church of the Incarnation, Episcopal. Dr. Gessner belonged to the Dallas Athletic Club. He was one of the original members of the City-County Board of Public Welfare, serving ten years after his appointment in 1938. Surviving are his wife, the former Miss Flora Lee Fabj, whom he married in El Paso on October 31, 1917; a son, Lee E. Gessner, Dallas; and two sisters, Miss Elizabeth E. Gessner and Miss Mabel Gessner, New Haven; and two grandchildren.

R. H. COCHRAN

Dr. Robert Henry Cochran, Coleman, Texas, died from myocarditis February 24, 1952, in a Coleman hospital.

Born July 22, 1876, near Alpine, Ga., Dr. Cochran was the son of William Henry and Martha Cornelia Cochran. He received preliminary schooling in Menlo, Ga., and in 1902 was awarded a degree from the Atlanta College of Physicians and Surgeons, now Emory University School of Medicine. He took postgraduate courses in New York and Washington University, St. Louis. Dr. Cochran had practiced in Coleman County since 1902 at Burkett, Silver Valley, and Coleman, and was a staff member of Overall Memorial Hospital, Coleman. He retired from active practice on April 30, 1951, because of ill health.

An obituary ordinarily will not be published more than four months after date of death. Cooperation in reporting deaths of physicians and in furnishing appropriate biographical material promptly is solicited.

Dr. Cochran, a member of the Texas Medical Association since 1904 and a fellow of the American Medical Association, had served Coleman County Medical Society as secretary in 1941, and as president from 1942 to 1945. He had been

DR. R. H. COCHRAN

president of the Fourth District Medical Society as well. During World War I he was a captain in the Medical Detachment of the Ninetieth Division, 315 Supply Train. He was an elder in the Presbyterian Church.

On August 17, 1937, in Coleman, Dr. Cochran married Miss Carrie E. Newsom, who survives. Also surviving are a brother, George Cochran, and a sister, Mrs. Ella Mulkey, both of Coleman.

T. W. YOUNG, JR.

Dr. Tacitus W. Young, Jr., Port Arthur, Texas, died in Port Arthur on November 25, 1951.

Dr. Young, a native of Lindsay, La., was born February 14, 1878. He was the recipient of a bachelor of science degree from Louisiana State University, Baton Rouge, in 1900 and a medical degree from the Medical Department of Tulane University of Louisiana, New Orleans, in 1907. After practicing until 1915 in Clinton, La., Dr. Young moved to Port Arthur, where he was active in medicine until his death. He specialized in obstetrics.

A member of the Texas Medical Association continuously since 1916, Dr. Young was a fellow of the American Medical Association. He was affiliated with the Tenth District Medical Society and Jefferson County Medical Society and was a staff member of St. Mary's (Gates Memorial) Hospital, Port Arthur. A Baptist, Dr. Young was a member of the Masonic Lodge, Knights Templar, and Shrine.

Dr. Young is survived by his wife, Mrs. Matilda Young, a daughter, Mrs. Elizabeth Moak, Beaumont; a son, James T. Young, and a stepson, W. J. Young, Port Arthur; and three grandchildren.

A. P. HOWARD

Dr. Abner Perry Howard, Vernon, Texas, died February 17, 1952, in Vernon. He was an uncle of the late Dr. Holman Taylor, who for thirty-seven years was secretary of the Texas Medical Association.

Dr. Howard, one of eight sons and eight daughters of Major Abner and Elizabeth Caroline (Conner) Howard, was born February 27, 1870, northeast of Longview. He had no formal academic training, and before entering the medical profession followed varied occupations: farming, preaching, bartending, working on the railroad as a section hand, and drumming. His medical degree was acquired in 1903 at the Medical Department of Tulane University of Louisiana, New Orleans. Postgraduate studies were pursued in Chicago, Rochester, Minn., and New Orleans.

Before going in 1907 to Vernon, where he practiced until about 1922, Dr. Howard had been located in Ashland, Gilmer, Flannagan City, and Friendship. He was local surgeon for the Texas Southeastern Railroad and physician

DR. ABNER PERRY HOWARD

for the Commercial Lumber Company, as well as city physician in Vernon for four years. Dr. Howard's business interests included oil and real estate. He was a member of the Presbyterian Church, International Order of Odd Fellows, and Woodmen of the World.

Dr. Howard's hobby of old-time fiddling led him to organize the Dixie Fiddlers and to appear on numerous radio programs. Also known as a public speaker, Dr. Howard had a home workshop and liked to fish.

Until his retirement from active medical practice, Dr. Howard was a member of the Texas and American Medical Associations through Upshur and Wilbarger Counties Medical Societies. He also was affiliated with the Tri-State Medical Association.

On December 24, 1891, near Longview, Dr. Howard married Miss Sarah Elizabeth Roberts; she died September 3, 1942. Surviving are three daughters, Mrs. Myrtle Howard Bradley, Vernon; Mrs. Annabelle Prince, Sherman; and Mrs. Dollie Howard Rudd, Wichita Falls; and a son, Perry Howard, Wichita Falls.

W. F. PARSONS

Dr. William Floyd Parsons, Fort Worth, Texas, died at his home January 31, 1952, several hours after suffering a heart attack.

Born in Winona, Mo., on November 9, 1898, to George E. and Elena (Harding) Parsons, Dr. Parsons was a graduate of the Houston public schools. He attended the Univer-

sity of Texas, Austin, and was graduated in 1932 from Baylor University College of Medicine, Dallas. After an internship at St. Joseph's Hospital, Fort Worth, he became associated with the late Drs. Henry B. and Ross Trigg of Fort Worth. During his twenty-year practice in that city he was company physician for the Texas Electric Service Company, as well as many other industrial firms.

Early in World War II Dr. Parsons served as a medical examiner for the Texas State Guard, and in 1942 he was called into active duty with the United States Navy. He was inducted into military service at Corpus Christi, then was chief surgeon and senior officer at Chase Field Base, Beeville; two of his four years of active duty were served overseas. For his performance with a surgical unit of a corps evacuation hospital on Iwo Jima, Dr. Parsons received a citation from the Marine Corps. He also received the bronze star. After his release from active duty with the rank of commander, he often gave his services free to veterans who were unable to pay.

DR. W. F. PARSONS

Dr. Parsons, a long-time member of the Texas Medical Association through Tarrant County Medical Society, was chairman of the Committee on Public Health at the time of his death, and he had served as chairman of the Committee on Hotels for the 1950 annual session in Fort Worth. For a number of years he had been secretary of the Texas Railway and Traumatic Surgical Association. His specialty was surgery, and he was a fellow of the American College of Surgeons.

Survivors include his wife, the former Miss Olive Ward; a daughter, Miss Susan Parsons, Fort Worth; a brother, R. H. Parsons, Crockett; and a sister, Mrs. Elena Rapp, Fort Worth.

J. W. WRIGHT

Dr. John Walker Wright, Fort Worth, Texas, died en route to a Fort Worth hospital February 18, 1952, from a heart attack.

Born July 2, 1898, in Eatonton, Ga., he was the son of Casper S. and Alice Wright. After attending Southern Methodist University, he matriculated at the University of Texas, Austin, and was awarded a bachelor of arts degree from that institution in 1920. The degree doctor of medicine was conferred upon him in 1926 by Baylor University College of Medicine, Dallas, and he completed an internship at Wesley Memorial Hospital, Atlanta, Ga. Since 1927 he had been engaged in the private practice of medicine in Fort Worth, with special interest in obstetrics and gynecology. He was a staff member of All Saints, Harris Memorial, St. Joseph's, and Pennsylvania Avenue Hospitals.

Dr. Wright was a member of the American and Texas Medical Associations through Tarrant County Medical Society. During World War I he was on active duty with the United States Army from October to December, 1918; in World War II he acted as medical coordinating and liaison physician for the several local selective service boards in Fort Worth. Dr. Wright was a member of the Methodist Church.

DR. J. W. WRIGHT

A. HERFF

Dr. Adolph Herff, Boerne, Texas, oldest member of a family prominent in the medical field in the Southwest, died February 19, 1952, in his ranch home.

At 93 years, Dr. Herff died at the same age as his father, Dr. Ferdinand Herff. His mother, the former Matilda Kloenghoeffer, was the niece of the German scientist who discovered the process for making aniline dye, the basis for development of the sulfonamide drugs.

As a 12 year old lad Dr. Herff tied the severed temporal artery of a man who fell on the curb of a San Antonio street and was in imminent danger of death. After his graduation from Jefferson Medical College of Philadelphia in 1880, he became his father's assistant, and together they performed, although without design, what probably ranked among the world's first appendectomies and the second recorded successful gastrostomy. The younger doctor also recorded his method for nephropexy, a technique still used today. He was the first San Antonio physician to use catgut sutures or rubber gloves. Dr. Herff had treated many famous persons during his practice spanning three generations. He recalled having vaccinated Theodore Roosevelt when he was organizing the Rough Riders at Fort Sam Houston, and two Mexican men of note, revolutionary leader Francisco I. Madero and President Lazaro Cardenas, were his patients as well.

Dr. Herff, a co-founder of Santa Rosa Hospital, practiced continuously in San Antonio until his seventy-fifth birthday.

At that time he held a scalpel before him and remarked, "It is a pleasure to finish one's work when one still has a steady hand and a quick eye." After his retirement from active medical practice, however, he kept abreast of medical developments and current affairs. His health remained good until he suffered a stroke last November. An avid huntsman and fisherman, he was able at the age of 90 to shoot a dime out of the air with a .22 rifle. Dr. Herff enjoyed working in his machine shop and often repaired his Haynes-Apperson automobile, which was the first car to be owned by a physician in his part of the country. He had traveled widely in the United States, Mexico, and Europe and until six months prior to his death drove his own car.

A charter member of Bexar County Medical Society, Dr. Herff was an honorary member of the Texas Medical Association, and a fellow of the American Medical Association. He was elected to fellowship in the American College of Surgeons in 1914. In January, 1951, he was given a medal and plaque upon completion of seventy years' membership in the Order of Hermann Sons. At his death he was the oldest living member of that group, and it had been a tradition for the officials of the order to honor him on his birthday with a party. During his lifetime he had been a member of several German Schutzen Vereins. His biography appeared in a recent article in the Washington and Lee University (Lexington, Va.) Alumni Bulletin as the university's oldest living alumnus; he had received his premedical training there, be-

DR. ADOLPH HERFF

ing graduated with honors. Other preliminary studies were taken at the German-English School, San Antonio, where he learned to speak Spanish and German fluently, and at Austin Military School, Austin. Dr. Herff was a member of the Roman Catholic Church.

Dr. Herff's wife, the former Miss Minna Kalteyer, whom he married in San Antonio in 1880, died March 17, 1926. He wed the former Miss Olga Ischar in San Antonio in 1930; she survives. Also surviving are his son, Dr. Ferdinand Herff, and three other San Antonio physicians: a grandson, Dr. W. M. Wolf, and two nephews, Drs. August F. Herff and John Herff. His grandnephew, August Herff, is a senior medical student at Jefferson Medical College, Philadelphia, his alma mater. A granddaughter and two great grandchildren also survive.

L. J. KASTEN

Dr. Leona Jane Kasten, San Antonio, Texas, died at her home February 18, 1952, from aplastic anemia.

On May 28, 1892, Dr. Kosten was born to August and Gerhardine Kasten of Hallettsville. She matriculated at Southwest Texas Normal College, San Marcos; Incarnate Word College, San Antonio; and the University of Texas, Austin; then was graduated in 1923 from the University of Texas School of Medicine, Galveston. She took postgraduate studies at the University of Pennsylvania, Philadelphia, and also studied in Vienna and other European medical centers for one year.

Dr. Kasten was an intern at Alameda County Hospital, Oakland, Calif., then moved to San Antonio, where she practiced for about twenty-seven years. For more than twenty

DR. LEONA KASTEN

years she was chief of the obstetrical and gynecological service at Robert B. Green Memorial Hospital. She gave her services to many charitable clinics and organizations.

A fellow of the American Medical Association and a member of the Texas Medical Association through Bexar County Medical Society, Dr. Kasten also was affiliated with the Texas Association of Obstetricians and Gynecologists; and she was a fellow of the American Academy of Obstetrics and Gynecology as well. Dr. Kasten was a member of the Lutheran Church.

On November 24, 1937, Dr. Kasten was married to Buford H. Walker, Jr. She is survived by her husband; two sisters, Mrs. Frank Riedesel and Mrs. Teresa Westphal, Nordheim; and two brothers, Adam Kasten, Nordheim, and Otto Kasten, San Antonio.

C. M. IRWIN

Dr. Clyde Morran Irwin, Charlotte, Texas, died in a Poteet hospital January 2, 1952, from acute coronary occlusion. His mother died the following day, and they were buried in the Irwin family cemetery plot in Floresville on the same day.

Dr. Irwin was the son of Dr. A. W. and Frances Irwin, born December 23, 1883, in Pattonville. He attended the public schools and received his academic education in Southwestern University, Georgetown. In 1909 he was awarded a medical degree by the University of Louisville Medical Department, Louisville. He practiced for several years in Min-

eral before moving to Charlotte, where he maintained an active interest in medicine for thirty-six years.

Dr. Irwin was commissioned a first lieutenant in the United States Army during World War I but never saw active service because of a heart condition. He was a member of the Texas and American Medical Associations through Atascosa County Medical Society. Dr. Irwin was a member of the Methodist Church.

Dr. Irwin is survived by his brothers, S. J. Irwin, Floresville, and L. L. Irwin, Fort Worth, and his sister, Mrs. H. W. Eschenberg, Devine.

L. A. EHRHART, JR.

Dr. Lawrence Albert Ehrhart, Jr., Allison Park, Pa., died from a brain tumor (oligodendroglioma) January 20, 1952, in a Pittsburgh hospital after three years of illness.

Dr. Ehrhart was born March 26, 1916, in Pittsburgh to Lawrence and Aleda Ehrhart. A graduate of the Frankford (Philadelphia) High School, he was awarded the degrees bachelor of science in 1941 and doctor of medicine in 1943 by the University of Pittsburgh. He served an internship and residency in neuropsychiatry in St. Francis Hospital, Pittsburgh. From 1944 until 1946 he saw active duty with the United States Army. Upon release he moved to Boerne, Texas, where he practiced until May, 1949. Since that time he had resided in Allison Park when not hospitalized.

During his medical career Dr. Ehrhart was a member of the Texas and American Medical Associations through Kerr-Kendall-Gillespie-Bandera Counties Medical Society. He was

DR. L. A. EHRHART, JR.

a member of Nu Sigma Nu medical fraternity, and while he was in Texas he belonged to the Order of Hermann Sons. Dr. Ehrhart was a member of the Presbyterian Church.

On September 5, 1942, in Pittsburgh, Dr. Ehrhart married Miss Elizabeth Hope Kumer. She survives as do their children, Larry, James, and Robert Henry; his parents, Mr. and Mrs. L. A. Ehrhart, Bala Cynwyd, Pa.; and his brother, Robert Ehrhart, Merrick, N. Y.

R. E. BEDDOE

Dr. Robert Earl Beddoe, Shawnee, Okla., died at his home January 19, 1952, from arteriosclerosis.

The grandson of the late Dr. R. C. Buckner, who founded the Buckner Orphans Home, Dallas, Dr. Beddoe was born to Dr. A. F. and Addie (Buckner) Beddoe in Dallas on September 9, 1882. Both Dr. Buckner and the elder Dr. Beddoe figured prominently in the history of Baylor University College of Medicine, Dallas, from which the younger Dr. Beddoe was graduated in 1909, after attending the public schools of that city.

After a five year term as a medical missionary in Yingtak, China, under the Foreign Mission Board of the Southern Baptist Convention, Dr. Beddoe returned to serve an internship at Texas Baptist Memorial Hospital, now Baylor Hospital, Dallas, then was assistant to Dr. C. M. Rosser, Dallas, for a year. With the exception of furlough trips home and periods of practice in Dallas from 1925 to 1934 and during the second World War, he continued with medical missionary work in China until 1947. He was superintendent of the Stout Memorial Hospital, Wuchow, which was damaged several times during Japanese attacks; however, he and his

DR. ROBERT E. BEDDOE

family escaped injury in the bombings. After the war he supervised reconstruction of the hospital. Dr. Beddoe was the composer of a hymn "Let Not Your Heart Be Troubled," which he dedicated to the persecuted Christians in China.

After his return to this country he was located for a brief while in Galveston, then took charge of the hospital at the Oklahoma Baptist University, Shawnee, helped organize the department of hospital administration in the university, and taught a course in hospital administration.

Dr. Beddoe, a member of the American Medical Association, was an honorary member of the Texas Medical Association (Dallas County Medical Society), and a member of the Oklahoma State Medical Association (Pottawatomie County Medical Society). He belonged to the American Association of Hospital Administrators and was a fellow of the American College of Surgeons. Dr. Beddoe was a member of the Rotary Club while in China. An accomplished pianist and organist, he was affiliated with the American Guild of Organists. He was a member of the Baptist Church and the Masonic Order.

Dr. Beddoe wed Miss Louella Houston, a teacher at the Wuchow Mission School in China, in Shanghai on November 24, 1911; she survives as do their two daughters, Mrs. M. L. Ross, wife of the Galveston physician; and Mrs. Julian Choate, Jackson, Miss; and five grandchildren.